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# A Glossary of Terms, Definitions, Acronyms, and Abbreviations Related to the National Airspace System (NAS)

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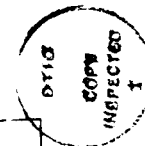


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## A GLOSSARY OF TERMS AND DEFINITIONS

The following terms are defined for the purpose of clarifying their meaning. This unofficial glossary was compiled to provide a common understanding of terms related to the National Airspace System (NAS). The terms contained in this glossary are primarily defined in an operational sense, and are applicable to users, operators and maintainers of the NAS. Those terms most frequently used in pilot/controller communications are printed in **bold**.

Because of the international nature of flying, terms used in the "Lexicon," published by the International Civil Aviation Organization (ICAO), are also included in this glossary when they differ from Federal Aviation Administration (FAA) definitions. For the reader's convenience, there are also cross references to related terms in other parts of the glossary, to other documents, such as the Federal Aviation Regulations (FAR's) and the Airman's Information Manual (AIM), and to the listing of acronyms.

Related term/definitions are grouped into common topics for more rapid reference. This enables a reader to locate necessary terms/definitions applicable to the specific area under review. Examples of common topics are as follows: data types, interfaces, navigation and landing, requirements, surveillance and weather.

### A-data

Flight plan information preceding the route and remarks (comments) portions of a flight plan. A-data includes: Message Prefix, Aircraft Identification, Aircraft Type, and Special Equipment; Filed Speed; Beacon Mode and Code; Altitude.

### A-line

An adapted line segment that causes a program search for an applicable PAR when intersected by a direct route segment for an arriving flight.

### AAIS-data

Non-control information, other than weather, required by pilots operating within a non-tower airport area. This data is manually entered by an FSS specialist.

### abandoned tank

Any underground storage tank, regardless of age, which is not intended to be returned to service or is unfit for use.

### abbreviated airways

Adaptation capability available in the ARTCC for designating a class/type function for displaying the normal airway data for a sector display. Those airways not normally used for traffic control in the particular sector may be displayed by activating the additional airways class/type key. See geographic map data.

### abbreviated dialing

A feature permitting certain designated calls to be completed with a reduced number of digits.

### abbreviated IFR flight plans

An authorization by ATC requiring pilots to submit only that information needed for the purpose of ATC. It includes only a small portion of the usual IFR flight plan information. In certain instances, this may be only aircraft identification, location, and pilot request. Other information may be requested if needed by ATC for separation/control purposes. It is frequently used by aircraft which are airborne and desire an instrument approach or by aircraft which are on the ground and desire a climb to VFR-on-top. See VFR-on-Top. (Refer to AIM)

### abeam

An aircraft is "abeam" a fix, point, or object when that fix, point, or object is approximately 90° to the right or left of the aircraft track. Abeam indicates a general position rather than a precise point.

### abort

To terminate a preplanned aircraft maneuver; e.g., an aborted takeoff.

### absolute altimeter

An instrument designed to indicate the actual height of an aircraft above the terrain. It works on the principle of measuring the time interval between transmission of a signal and the return echo from the earth's surface, or by measuring the phase difference between the transmitted signal and echo.

### absolute instability

A state of a layer within the atmosphere in which the vertical distribution of temperature is such that an air parcel, if given an upward or downward push, will move away from its initial level without further outside force being applied.

### absolute temperature scale

See Kelvin temperature scale.

### absolute vorticity

See vorticity.

### absorption loss

The loss of power in a transmission circuit that results from coupling to a neighboring circuit or conductor.

1. absorption peak -- Abnormally high attenuation at a particular frequency as a result of absorption loss.

### accept

A response to an originating controller or computer that the receiving controller has received or observed the aircraft data being coordinated and assumes complete responsibility for the action as appropriate.

### acceptable quality level/AQL

The quality standard associated with a given producer's risk, which is prescribed by the customer or quality engineer for the products on order, usually expressed in percent defective per hundred units.

### acceptance sampling

A procedure in which decisions to accept or reject are based on the examination of samples.

1. acceptance sampling plan -- A procedure which specifies the number of units of a product which are to be inspected (sample size or series of sample sizes) and the criteria for determining acceptability (acceptance and rejection numbers).

### acceptance tests

Tests to determine conformance to design or specifications as a basis for acceptance. They may apply to components, equipment, systems or sub-systems.

### access

(1) The ability and opportunity to obtain knowledge or possession of classified information. (An individual does not have access to information merely by being in a place where it is kept, provided the security measures in effect prevent him/her from gaining knowledge or possession of the information.) (2) The ability and means to approach, store or retrieve data, to communicate with or make use of any resources of a computer system.

1. access category -- One of the classes to which a user, a program or a process in a computer system may be assigned on the basis of the resources or groups of resources that each user, program, or process is authorized to use.
2. access control -- The process of limiting access to the resources of a computer system or communications network only to authorized users, programs, processes or other systems in a computer network. This is accomplished through the use of appropriate physical, procedural and hardware/software controls.
3. access control mechanism -- Hardware/software features, operating procedures, management procedures or various combinations of these designed to detect and prevent

unauthorized access and to permit authorized access to a computer system.

4. access list -- A catalogue of users, programs or processes and the specifications of access categories to which each is assigned.
5. access period -- A segment of time, generally expressed on a daily or weekly basis, during which access might prevail.
6. access type -- The nature of an access right to a particular device, program or file: for example, read, write, execute, append, modify, delete, create.

#### access time

The time it takes a computer to locate data or an instruction word in its storage section and transfer it to its arithmetic unit where the required computations are performed.

#### accountability

The quality or state which enables violations or attempted violations of computer system security to be traced to individuals who may then be held responsible.

#### accounting system

A system established to assist in the financial management functions of budget formulation and execution, proprietary accounting and financial reporting. It is the total structure of methods and procedures used to record, classify and report information on the financial position and operation of an organizational unit or of any of its funds, balance account groups and organizational components. Accounting systems are comprised of the various operations involving the authorizing, recording, classifying and reporting of financial data related to revenues, expenses, assets, liabilities and equity.

#### accreditation

The authorization and approval granted an automated information system or network to process sensitive data in an operational environment, and made on the basis of a certification by designated technical personnel of the extent to which design and implementation of the system meet pre-specified technical requirements for achieving adequate data security.

### acknowledge

(1) A response to a request, without further commitment, as to what action will be taken. (2) A query from a controller meaning "let me know that you have received my message."

### acknowledge (ICAO)

Let me know that you have received and understood this message.

### acrobatic flight

An intentional maneuver involving an abrupt change in an aircraft's attitude, an abnormal attitude, or abnormal acceleration not necessary for normal flight. (Refer to FAR Part 91)

### acrobatic flight (ICAO)

Maneuvers intentionally performed by an aircraft involving an abrupt change in its attitude, an abnormal attitude, or an abnormal variation in speed.

### active air defense mission

The scramble of one or more interceptors in the interest of national security or flight safety, the purpose of which is recognition and determination of the intentions of an airborne object.

### active account

Classified documents held by a classified account custodian, which change periodically due to updating, addition or deletion.

### active element

A part that converts or controls energy; e.g., transistor, diode, electron tube, relay, valve, motor, hydraulic pump, etc.

### active flight plan

All flights for which an actual departure time has been entered, whether the flight originates inside or outside the control area. (Cannot be amended or cancelled via TTY.) See flight plan activity status.



### active repair time

That portion of downtime during which one or more technicians are working on the system to effect a repair.

### active sector

A WSEC which has its mating (i.e., like numbered) GSEC paired with it. A sector providing air traffic control in one or more assigned fix posting areas. See sector.

### active time

An actual arrival time, an actual departure time, or an estimated arrival time included in the flight plan as part of R-data.

### actual calculated landing time/ACLT

ACLT is a flight's frozen calculated landing time. An actual time determined at freeze calculated landing time (FCLT) or meter list display interval (MLDI) for the adapted vertex for each arrival aircraft based on runway configuration, airport acceptance rate, airport arrival delay period, and other metered arrival aircraft. This time is either the vertex time of arrival (VTA) of the aircraft or the tentative calculated landing time (TCLT)/ACLT of the previous aircraft plus the arrival aircraft interval (AAI), whichever is later. This time will not be updated in response to the aircraft's progress.

### adaptation

Unique site-dependent data/functions required by the operational program to provide the flexible capability necessary for individual site performance determined during implementation.

### adaptation assembler

See assembler, adaptation data.

### adaptation data

A portion of the data base available to the operational computer program that contains permanent type data which define the characteristics of the operating system environment at a unique location. Geographical data (e.g., radar site locations, fix and airway data), aircraft characteristics, design parameters, initial conditions, and other system parameters are included in adaptation. Provision is made for modifying adaptation data whenever the

real world represented by the stored data changes. See stereo.

#### adapted

Contained or present in adaptation.

#### adapted direct routes

Provide rigidly controlled fix posting for often used flight paths between two consecutive filed fixes.

#### adapted sectorization plan

Up to five sectorization plans may be adapted on any one NAS system tape. Any one of the five plans may be activated by a re-sector message by specifying the plan number. See sectorization plans.

#### add-on security

The retrofitting of protection mechanisms, implemented by hardware or software, after a system has become operational.

#### additional airways

Adaptation capability available in the ARTCC for designating a class/type function for displaying airway data which normally is not observed at the particular position. For example, low altitude sector desires to observe the high altitude airways which would be displayed by dashed lines instead of the usual solid lines. See abbreviated airways, geographic map data.

#### additional services

Advisory information provided by ATC which includes but is not limited to the following: traffic advisories; vectors, when requested by the pilot, to assist aircraft receiving traffic advisories to avoid observed traffic; altitude deviation information of 300 feet or more from an assigned altitude as observed on a verified (reading correctly) automatic altitude readout (Mode C); advisories that traffic is no longer a factor; weather and chaff information; weather assistance; bird activity information; and holding pattern surveillance.

Additional services are provided to the extent possible contingent only upon the controller's capability to fit them into the performance of higher priority duties and on the basis of limitations of the radar, volume of traffic, frequency congestion, and controller workload. The

controller has complete discretion for determining if he/she is able to provide or continue to provide a service in a particular case. The controller's reason not to provide or continue to provide a service in a particular case is not subject to question by the pilot and need not be made known to him/her. See traffic advisories. (Refer to AIM)

#### address

An identification represented by a name, label, or number, for a register, port or a location where data or programming instructions are sent or stored. For example in a microprocessor, a bit number that identifies a memory location. Addresses are also part of an instruction which specifies an operand for the instruction.

#### addressor field

Field 00 of a message from an area B TTY or from adjacent Phase 1 or NAS center, and ARTS containing the identifier of the sending facility.

#### adiabatic process

The process by which fixed relationships are maintained during changes in temperature, volume, and pressure in a body of air without heat being added or removed from the body.

#### adjacent center

A center whose area is adjacent to that of the center being discussed.

#### adjacent facility

A facility whose assigned airspace borders that of the facility being discussed.

#### adjust

Indicates a changing or fine tuning of the data base, adaptation, display, and/or communication controls.

#### administrative security

The management constraints, operational procedures, accountability procedures and supplemental controls established to provide an acceptable level of protection for sensitive data. Synonymous with procedural security.

## Administrator

The Federal Aviation Administrator or any person to whom he/she has designated his/her authority in the matter concerned.

## advection

The horizontal transport of air or atmospheric properties. In meteorology, sometimes referred to as the horizontal component of convection.

1. advection fog -- Fog resulting from the transport of warm, humid air over a cold surface.

## advise

To offer advice or counsel to another person with information and/or data that the originating controller deems necessary to pass to the receiver.

## advise intentions

Control instructions meaning, "tell me what you plan to do."

## advisory

(1) Advice and information provided to assist pilots in the safe conduct of flight and aircraft movement. (2) A message given to the pilot containing information relevant to collision avoidance. See advisory service.

## advisory frequency

The appropriate frequency to be used for Airport Advisory Service. See airport advisory service, UNICOM. (Refer to Advisory Circular No. 90-42 and AIM)

## advisory service

Advice and information provided by a facility to assist pilots in the safe conduct of flight and aircraft movement. See airport advisory service, traffic advisory alerts, additional services, radar advisory, en route flight advisory service. (Refer to AIM)

## aerial refueling/in flight refueling

A procedure used by the military to transfer fuel from one aircraft to another during flight. (Refer to VFR/IFR Wall Planning Charts)

### aerodrome

A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure, and movement of aircraft.

1. aerodrome lighting -- Various lighting aids that may be installed on an aerodrome. See airport lighting.
2. aerodrome elevation (ICAO) -- The elevation of the highest point of the landing area. See airport elevation.

### aerodrome beacon (ICAO)

Aeronautical beacon used to indicate the location of an aerodrome.

### aerodynamic coefficient(s)

Non-dimensional coefficients for aerodynamic force(s) and moment(s).

### aerodrome control service (ICAO)

Air traffic control service for aerodrome traffic.

### aeronautical advisory station

A private aeronautical advisory communication facility operated for purposes other than air traffic control.

### aeronautical and meteorological data

Any combination of aeronautical and weather information.

### aeronautical beacon

A visual NAVAID displaying flashes of white and/or colored light to indicate the location of an airport, a heliport, a landmark, a certain point of a Federal airway in mountainous terrain, or an obstruction. See airport rotating beacon. (Refer to AIM)

### aeronautical chart

A map used in air navigation containing all or part of the following: Topographic features, hazards and obstructions, navigation aids, navigation routes, designated airspace, and airports. Commonly used aeronautical charts are:

1. Sectional Charts -- 1:500,000 -- Designed for visual navigation of slow or medium speed aircraft. Topographical information on these charts features the portrayal of relief and a judicious selection of visual check points for VFR flight. Aeronautical information includes visual and radio aids to navigation, airport, controlled airspace, restricted areas, obstructions, and related data.
2. VFR Terminal Area Charts -- 1:250,000 -- Depict Terminal Control Area (TCA) airspace which provides for the control or segregation of all the aircraft within the TCA. The chart depicts topographic information and aeronautical information which includes visual and radio aids to navigation, airport, controlled airspace, restricted areas, obstructions, and related data.
3. World Aeronautical Charts/WAC -- 1:1,000,000 -- Provide a standard series of aeronautical charts covering land areas of the world at a size and scale convenient for navigation by moderate speed aircraft. Topographic information includes cities and towns, principal roads, railroads, distinctive landmarks, drainage, and relief. Aeronautical information includes visual and radio aids to navigation, airports, airways, restricted areas, obstructions, and other pertinent data.
4. En Route Low Altitude Charts -- Provide aeronautical information for en route instrument navigation (IFR) in the low altitude stratum. Information includes the portrayal of airways, limits of controlled airspace, position identification and frequencies of radio aids, selected airports, minimum en route and minimum obstruction clearance altitudes, airway distances, reporting points, restricted areas, and related data. Area charts which are part of this series, furnish terminal data at a larger scale in congested areas.
5. En Route High Altitude Charts -- Provide aeronautical information for en route instrument navigation (IFR) in the high altitude stratum. Information includes the portrayal of jet routes, identification and frequencies of radio aids, selected airports, distances, time zones, special use airspace, and related information.
6. Instrument Approach Procedures/IAP Charts -- Portray the aeronautical data which is required to execute an instrument approach to an airport. These charts depict the procedures, including all related data, and the airport diagram. Each procedure is designed for use with a specific type of electronic navigation system including NDB, TACAN, VOR, ILS/MLS, and RNAV. These

charts are identified by the type of navigational aid(s) which provide final approach guidance.

7. Standard Instrument Departure/SID Charts -- Designed to expedite clearance delivery and to facilitate transition between takeoff and en route operations. Each SID procedure is presented as a separate chart and may serve a single airport or more than one airport in a given geographical location.
8. Standard Terminal Arrival/STAR Charts -- Designed to expedite air traffic control arrival procedures and to facilitate transition between en route and instrument approach operations. Each STAR procedure is presented as a separate chart and may serve a single airport or more than one airport in a given geographical location.
9. Airport Taxi Charts -- Designed to expedite the efficient and safe flow of ground traffic at an airport. These charts are identified by the official airport name; e.g., Washington National Airport.

#### aeronautical chart (ICAO)

A representation of a portion of the earth, its culture and relief, specifically designated to meet the requirements of air navigation.

#### aeronautical fixed circuit

Part of the aeronautical fixed service.

#### Aeronautical Fixed Service/AFS

Telecommunications service between specified fixed points, provided primarily for the safety of air navigation and for the regular efficient, and economical operation of air services.

#### Aeronautical Fixed Telecommunications Network/AFTN

An integrated worldwide system of aeronautical fixed circuits provided, as part of the AFS, for the exchange of messages between the aeronautical fixed stations within the network.

#### aeronautical information

Aeronautical information generally refers to NOTAMs, but may consist of any of the following: (a) information concerning the establishment, condition or change in any component of the NAS (e.g., airports, NAVAIDs); (b) information regarding

the boundaries and effective times of restricted or special use airspace; (c) information regarding preferred or fuel efficient routes; or (d) traffic management information.

aeronautical information publication (ICAO)

A publication issued by or with the authority of a state and containing aeronautical information of a lasting character essential to air navigation.

aeronautical and meteorological/A&M-data

Any combination of air traffic control and weather information.

affected units of local government

Each public agency and planning agency whose jurisdiction or responsibility is either wholly or partially within the yearly Day-Night average sound Level/LDN 65 boundary.

affirmative

Yes.

AFOS products

Automation of field operations and services mnemonics are used by the National Weather Service in the generation of weather charts, graphs and plots. These will also be incorporated in weather graphics generation in various NAS equipment. The AFOS system is scheduled to be replaced by the AWIPS-90 system, but the weather products produced will be similar.

agency

Any executive department, military department, government corporation, government controlled corporation or other establishment in the executive branch of the government (including the Executive Office of the President) or any other regulatory agency.

1. agency component -- A major organization, program or functional subdivision of an agency having one or more separate systems of internal control.

agonic line

A line on a chart joining points of no magnetic variation.



## AI radar

An airborne interceptor radar system.

## air almanac

A joint publication of the U.S. Naval Observatory and the British Royal Observatory covering a four month period. It contains tabulated values of the Greenwich hour angle and declination of selected celestial bodies, plus additional celestial data used in navigation.

## air carrier

(1) An aircraft certified by the FAA for the purpose of carrying persons or goods for hire on an established airway. (2) All civil aviation activities certificated in accordance with FAR Parts 121, 123, 127, and 135. (3) Any citizen of the United States who undertakes, whether directly or indirectly or by lease or any other arrangement, to engage in air transportation.

1. air taxi -- An air carrier certificated in accordance with FAR Part 135 and authorized to provide, on demand, public transportation of persons and property by aircraft. Generally, such operations involve the operation of small aircraft "for hire" for specific trips.
2. air travel club -- An operator certified in accordance with FAR Part 123 to engage in the carriage of members who are qualified for that carriage by payment of an assessment, dues, membership fees, or other similar remittance.
3. all-cargo carrier -- An air carrier certificated in accordance with FAR Part 121 to provide scheduled air freight, express, and mail transportation over specified routes, as well as the conduct of non--scheduled operations which may include passengers.
4. charter air carrier -- An air carrier holding a certificate of public convenience and necessity authorizing it to engage in charter air transportation.
5. commercial air carriers -- An air carrier certificated in accordance with FAR Parts 121 or 127 to conduct scheduled services on specified routes. These air carriers may also provide non-scheduled or charter services as a secondary operation. Four carrier groupings have been designated for statistical and financial data aggregation and analysis.

- a. majors -- Air carriers with annual operating revenues greater than \$1 billion.
  - b. nationals -- Air carriers with annual operating revenues of between \$100 million and \$1 billion.
  - c. large regionals -- Air carriers with annual operating revenues
- 6. commuter air carrier -- An air carrier certificated in accordance with FAR Part 135 which operates with a maximum of 60 seats, and provides at least five scheduled round trips per week between two or more points, or carries mail.
  - 7. foreign flag air carrier -- An air carrier other than a U. S. flag air carrier in international air transportation. "Foreign air carrier" is a more inclusive term than "foreign flag air carrier," presumably including those non-U. S. air carriers operating solely within their own domestic boundaries. In practice, the two terms are used interchangeably.
  - 8. supplemental air carrier -- An air carrier certificated in accordance with FAR Part 121, and providing non-scheduled or supplemental carriage of passengers or cargo, or both, in air transportation. They are also referred to as non-scheduled or charter air carriers.

#### air carrier B

Low-speed (100 wpm) multi-point teletypewriter communication circuits connecting ARTCCs with air carrier operations offices located within the geographic area of each center. See service B.

#### Air Carrier District Office/ACDO

This FAA organizational element conducts air safety programs relating to the certification, inspection, and surveillance of operations and maintenance programs and facilities of air carriers and commercial operators; certification and surveillance of air carrier airmen; surveillance of airports used for training of air carrier or commercial operator operations; and recurring certification of air craft (in excess of 12,500 lbs.) used by air carriers or commercial operators.

## air carrier operations

Arrivals and departures performed by air carriers certificated in accordance with FAR Parts 121 and 127.

1. commuter/air taxi operations -- Those arrivals and departures performed by air carriers certificated in accordance with FAR Part 135.
2. domestic operations -- All air carrier operations having destinations within the 50 United States, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands.
3. general aviation operations -- Arrivals and departures of all civil aircraft, except those classified as air carrier and commuter/air taxi.
4. international and territorial operations -- The operation of aircraft flying between the 50 United States and U. S. possessions and territories, and between two foreign points. Includes both the combined passenger/cargo and the all-cargo carriers engaged in international and territorial operations.
5. itinerant operations -- All aircraft operations other than local operations.
6. local operations -- Operations performed by aircraft which: (a) operate in the local traffic pattern or within sight of the airport; (b) are known to be departing for or arriving from flights in local practice areas located within a 20 mile radius of the airport; or (c) execute simulated instrument approaches or low approaches at the airport.
7. military operations -- All arrivals and departures performed by aircraft not classified as civil.
8. total operations -- All arrivals and departures performed by military, general aviation, commuter/air taxi and air carrier aircraft.

## air combat maneuvers/ACM

One or a combination of basic ACT flight maneuvers calculated to provide an offensive tactical advantage over another aircraft.

### air combat training/ACT

Flight involving basic flight maneuvers, air combat maneuvers or defensive combat maneuvers, singly or in combination.

### air commerce

Interstate, overseas, or foreign air commerce or the transportation of mail by aircraft or any operation or navigation of aircraft within the limits of any Federal airway or any operation or navigation of aircraft which directly affects, or which may endanger safety in, interstate, overseas, or foreign air commerce.

### Air Defense Control Facility/ADCF

A military radar unit primarily used for air defense.

### air defense emergency

A military emergency condition declared by a designated authority. This condition exists when an attack upon the continental U.S., Alaska, Canada, or U.S. installations in Greenland by hostile aircraft or missiles is considered probable, is imminent, or is taking place. (Refer to AIM)

### Air Defense Identification Zone/ADIZ

The area of airspace over land or water, extending upward from the surface, within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

1. Domestic Air Defense Identification Zone -- An ADIZ within the United States along an international boundary of the United States.
2. Coastal Air Defense Zone -- An ADIZ over the coastal waters of the United States.
3. Distant Early Warning Identification Zone/DEWIZ -- An ADIZ over the coastal waters of the State of Alaska.

ADIZ locations and operating and flight plan requirements for civil aircraft operations are specified in FAR Part 99. (Refer to AIM)

### air density

The mass density of the air in terms of weight per unit volume.

### air derived

Information generated about an aircraft from the data received by radar and/or by voice from an airborne aircraft. See ground derived.

### air distance/AD

Distance that is measured relative to the mass of air through which an aircraft passes; the no wind distance flown in a given time (TAS x time).

### air-filed flight plan

A flight plan filed by an aircraft which is already airborne and operating under VFR conditions. See radio file.

### air mass

In meteorology, an extensive body of air within which the conditions of temperature and moisture in a horizontal plane are essentially uniform.

### air mass classification

A system used to identify and to characterize the different air masses according to a basic scheme. The system most commonly used classifies air masses primarily according to the thermal properties of their source regions: "tropical" (T); "polar" (P); and "Arctic" or "Antarctic" (A). They are further classified according to moisture characteristics as "continental" (c) or "maritime" (m).

### air navigation facility

Any facility used in, available for use in, or designated for use in, aid of air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio-directional finding, or for radio or other electrical communication, and any other structure or mechanism having a similar purpose for guiding or controlling flight in the air or the landing and takeoff of aircraft. See navigation aid.

### air parcel

See parcel.

### air position/AP

The no wind position of an aircraft at a given time.

### air refueling control point

The geographical point over which the receiver arrives in the observation/ refueling position with respect to the assigned tanker.

### air refueling initial point

The geographical point at which the receiver aircraft enters the refueling track, initiates radio contact with the tanker and begins maneuver to rendezvous.

### Air Route Surveillance Radar/ARSR

Air route control center (ARTCC) radar used primarily to detect and display an aircraft's position while en route between terminal areas. The ARSR enables controllers to provide radar air traffic control service when aircraft are within the ARSR coverage. In some instances, ARSR may enable an ARTCC to provide terminal radar services similar to but usually more limited than those provided by a radar approach control.

### Air Route Traffic Control Center/ARTCC

A facility established to provide air traffic control service to aircraft operating on instrument flight rules (IFR) flight plans within controlled airspace, and principally during the en route phase of flight. When equipment capabilities and controller workload permit, certain advisory/assistance services may be provided to aircraft flying under visual flight rules (VFR). See NAS Stage A, en route air traffic control service. (Refer to AIM)

### air sovereignty test

An aircraft on a NOPAR flight plan or ALTRV that is designed to test the detection, identification and reporting functions of air defense forces (ADCF and interceptor/fighter units).

### air taxi

Used to describe a helicopter/VTOL aircraft movement conducted above the surface but normally not above 100 feet AGL. The aircraft may proceed either via hover taxi or flight at speeds more than 20 knots. The pilot is solely responsible for selecting a safe airspeed/altitude for the operation being conducted. See hover taxi. (Refer to AIM)

## air temperature

The temperature of the air immediately surrounding an aircraft.

1. basic air temperature/BAT -- Indicated air temperature corrected for the instrument error.
2. corrected mean temperature/CMT -- The average between the target temperature and the true air temperature of flight level.
3. indicated air temperature/IAT -- The uncorrected reading from the free air temperature gage. Also known as outside air temperature/OAT.
4. true air temperature/TAT -- Basic air temperature corrected for the heat of compression error.

## air traffic

Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

## air traffic (ICAO)

All aircraft in flight or operating on the maneuvering area of an aerodrome.

## air traffic clearance/ATC clearance

An authorization by air traffic control, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace. See ATC instructions.

## air traffic control/ATC

(1) A service operated by appropriate authority to promote the safe, orderly and expeditious flow of air traffic. (2) A generic term for a joint civil-military system for controlling traffic within a specified area.

## air traffic control clearance (ICAO)

Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.

## Air Traffic Control Command Center/ATCCC

An Air Traffic Operations Service facility consisting of four operational units.

1. Central Flow Control Function/CFCF -- Responsible for coordination and approval of all major inter-center flow control restrictions on a system basis in order to obtain maximum utilization of the airspace. See fuel advisory departure, quota flow control.
2. Central Altitude Reservation Function/CARF -- Responsible for coordinating, planning, and approving special user requirements under the altitude reservation/ALTRV. See altitude reservation.
3. Airport Reservation Office/ARO -- Responsible for approving IFR flights at designated high density traffic airports (John F. Kennedy, LaGuardia, O'Hare, and Washington National) during specified hours. (Refer to FAR Part 93 and Airport/Facility Directory)
4. ATC Contingency Command Post -- A facility which enables the FAA to manage the ATC system when significant portions of the system's capabilities have been lost or are threatened.
5. ATCCC specialist -- Traffic management specialist resident at the air traffic control command center who coordinates with local traffic management specialists at ARTCC's and manages flow control operations.

#### air traffic control facility

A facility that provides air traffic control service. Air Traffic Control Radar Beacon System/ATCRBS See radar.

#### air traffic control service

A service provided for the purpose of promoting the safe, orderly, and expeditious flow of air traffic including airport, approach, and en route air traffic control service.

#### air traffic control service (ICAO)

A service provided for the purpose of; preventing collisions between aircraft, and on the maneuvering area between aircraft and obstructions, and expediting and maintaining an orderly flow of air traffic.

#### Air Traffic Control Radar Beacon System/ATCRBS

A secondary surveillance radar system having ground-based interrogators and airborne transponders capable of operation on Modes A and C. See secondary radar.



### air traffic control service (ICAO)

A service provided for the purpose of; preventing collisions between aircraft, on the maneuvering area between aircraft/obstructions, and expediting and maintaining an orderly flow of air traffic.

### Air Traffic Control Specialist/ATCS

A duly authorized person providing air traffic control service.

### air traffic control system

All components, human and otherwise, of a system providing ATC service.

### air traffic hub

Air traffic hubs are not airports; they are the cities and Metropolitan Statistical Areas requiring aviation services and may include more than one airport. Communities fall into four classes as determined by each community's percentage of the total enplaned passengers by scheduled air carriers in the 50 Contiguous United States, the District of Columbia, and other U. S. areas designated by the FAA.

1. large -- 1.00 percent (4,000,080 passengers and over in CY 1986).
2. medium -- 0.25 percent to 0.999 percent (between 1,000,020 and 4,000,079 passenger in CY 1986).
3. small -- 0.05 percent to 0.249 percent (between 200,005 and 1,000,019 passengers in CY 1986).
4. non-hub -- Less than 0.05 percent (under 200,004 passengers in CY 1986).

### Air Traffic Representative/ATREP

An FAA air traffic representative at a military facility which provides approach control service to civil aircraft.

### air transportation

Interstate, overseas, or foreign air transportation or the transportation of mail by aircraft.

### airborne delay

Amount of delay to be encountered in airborne holding. This delay is identified by an "R" in the remarks section of the en route flight progress strip; i.e., R015.

### airborne order

A command and authorization for an air defense flight requiring time, of more than five minutes, to become airborne.

### airborne radar unit

A radar unit mounted on an aircraft which is used as an extension of a military radar system during planned exercises and daily training missions.

### aircraft

Device(s) that are used or intended to be used for flight in the air, and when used in air traffic control terminology, may include the flight crew (exception: ultra-light vehicles described by FAR Part 103).

1. aircraft (ICAO) -- Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

### aircraft accident

An occurrence associated with the operation of an aircraft which takes place between the time a person(s) boards the aircraft with the intention of flight and when all such person(s) have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

1. destroyed -- Damage to an aircraft, to the extent that it would be impracticable to return the aircraft to an airworthy condition.
2. fatal injury -- Any injury which results in death within 30 days of the accident.
3. mild-survivable (accident) -- An accident in which all occupants received either minor or no injuries.
4. substantial damage -- Damage or failure which adversely affects the structural strength, performance or flight characteristic of the aircraft, and which would

normally require major repair or replacement of the affected component (exceptions: engine failure or damage limited to an engine, if only one engine fails or is damaged; fairings or cowlings; dented skin; small puncture holes in the skin or fabric; ground damage to rotor or propeller blades; damage to landing gear, wheels, brakes, tires, flaps, engine accessories or wing tips are not considered "substantial damage.").

5. serious injury -- Any injury which: requires hospitalization for more than 48 hours, commencing within 7 days from the date an injury was received; results in a fracture of any bone (except simple fractures of fingers, toes or nose); causes severe hemorrhages, nerve, muscle, or tendon damage; involves any internal organ; or involves second or third degree burns, or burns affecting more than 5 percent of the body surface.
6. severe-survivable (accident) -- An accident in which at least one occupant received a serious or fatal injury.
7. substantial damage -- Damage or failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component(s). Engine failure, damage limited to an engine, bent fairings or cowlings, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, damage to landing gear, wheels, tires, flaps, engine accessories, brakes or wing-tips are not normally considered "substantial damage."
8. survivable (accident) -- An accident in which the forces transmitted to the occupant(s) through the seat and restraint system do not exceed the limits of human tolerance to abrupt accelerations and in which the structure in the occupant's immediate environment remains substantially intact to the extent that a livable volume of space is provided for the occupant throughout the crash sequence.

#### aircraft approach category

A grouping of aircraft based on a speed of 1.3 times the stall speed in the landing configuration at maximum gross landing weight. An aircraft shall fit in only one category. If it is necessary to maneuver at speeds in excess of the upper limit of a speed range for a category, the minimums for the next higher category should be used. For example, an aircraft which falls in Category A, but is circling to

land at a speed in excess of 91 knots, should use the approach Category B minimums when circling to land. The categories are as follows:

1. Category A -- Speed less than 91 knots.
2. Category B -- Speed 91 knots or more but less than 121 knots.
3. Category C -- Speed 121 knots or more but less than 141 knots.
4. Category D -- Speed 141 knots or more but less than 166 knots.
5. Category E -- Speed 166 knots or more

(Refer to FAR Part 1 and 97)

#### Aircraft Certification Field Office/ACFO

Manufacturing Inspection District Office (MIDO): This FAA organizational element provides for original and supplemental airworthiness certification or approval of civil aircraft, engines, propellers, parts, and appliances including surplus military products and parts. This element also conducts inspection surveillance of manufacturing facilities producing civil aircraft, engines and propellers to determine compliance with prescribed safety standards.

#### aircraft classes

For the purposes of Wake Turbulence Separation Minima, ATC classifies aircraft as Heavy, Large and Small, as follows:

1. heavy -- Aircraft capable of takeoff weights of 300,000 pounds or more whether or not they are operating at this weight during a particular phase of flight.
2. large -- Aircraft of more than 12,500 pounds, maximum certificated takeoff weight, up to 300,000 pounds.
3. small -- Aircraft of 12,500 pounds, maximum certificated takeoff weight.

#### aircraft contacted

Aircraft with which the flight service stations have established radio communications contact. One count is made for each en route, landing or departing aircraft contacted by a flight service station, regardless of the number of contacts made with an individual aircraft during the same

flight. A flight operation containing radio contact with five FSS's would be counted as five aircraft contacted.

1. aircraft contact report -- Information generated by an FSS specialist reporting contact with an aircraft that is using the flight-following service.

#### aircraft engine

An engine that is used or intended to be used for propelling aircraft. It includes turbochargers, appurtenances and accessories necessary for its functioning, but does not include propellers.

#### Aircraft Maintenance Base/AMB

Agency facilities performing scheduled and unscheduled aircraft and avionics maintenance of FAA aircraft.

#### aircraft movement areas

Those areas which encompass the runways, taxiways and other areas of the airport utilized for taxiing, takeoff and landing of aircraft, excluding aprons and parking areas.

#### Aircraft Movement Information Service/AMIS

A service provided by an ARTCC, to provide for the acquisition, processing and dissemination of aircraft movement information for use by the air defense facilities, whether or not such air defense facilities are associated with an ADIZ. Such information pertains to friendly aircraft and airborne objects which are or will be operating in the air defense facilities area(s).

#### aircraft operations

The airborne movement of aircraft in controlled or non-controlled airport terminal areas, and counts at en route fixes or other points where counts can be made. There are two types of operations: local and itinerant.

#### aircraft separation assurance/ASA

The prevention of collisions between aircraft.

#### aircraft trajectory alert

An alert generated by comparing flight plan projections of aircraft in a given airspace. The alert will warn the specialist of aircraft that, if the aircraft continue

according to their flight plans they would come within a system parameter distance of one another.

#### airframe

The fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors, but excluding propellers and rotating airfoils of engines), and landing gear of an aircraft and their accessories and controls.

#### airline B TTY

A teletypewriter circuit (network) to which airline operations offices are connected.

#### airman

Any individual who engages, as the person in command or as pilot, mechanic, or member of the crew, in the navigation of aircraft while under way; and in charge of the inspection, maintenance, overhauling, or repair of aircraft, aircraft engines, propellers, or appliances; and any individual who serves in the capacity of aircraft dispatcher or air traffic control tower operator.

#### Airman's Information Manual/AIM

A publication containing Basic Flight Information and ATC Procedures designed primarily as a pilot's instructional manual for use in the National Airspace System of the United States.

#### Airman's Meteorological Information/AIRMET

In flight weather advisories issued only to amend the area forecast concerning weather phenomena which are of operational interest to all aircraft and potentially hazardous to aircraft having limited capability because of lack of equipment, instrumentation, or pilot qualifications. AIRMETs concern weather of less severity than that covered by SIGMETs or Convective SIGMETs. AIRMETs cover moderate icing, moderate turbulence, sustained winds of 30 knots or more at the surface, widespread areas of ceilings less than 1,000 feet and/or visibility less than 3 miles, and extensive mountain obscurement.

#### Airmen Advisory/AIRAD

(1) A Notice to Airmen normally given only local dissemination, during pre-flight or in-flight briefing, or otherwise during contact with pilots. (2) Airman advisories are in reference to phenomena imposing hazardous flight

conditions, not necessarily directly pertaining to weather. Airman advisories may include, NOTAMs, SIGMETs or AIRMETs.

### AIRMET/WA/Airmans Meteorological Information

In flight weather advisories issued only to amend the area forecast concerning weather phenomena which are of operational interest to all aircraft and potentially hazardous to aircraft having limited capability because of lack of equipment, instrumentation, or pilot qualifications. AIRMET's concern weather of less severity than that covered by SIGMET's or Convective SIGMET's. AIRMETS cover moderate icing, moderate turbulence, sustained winds of 30 knots or more at the surface, widespread areas of ceilings less than 1,000 feet and/or visibility less than 3 miles, and extensive mountain obscurement. See SIGMET, Convective SIGMET, and CWA. (Refer to AIM)

### airplane

An engine-driven fixed-wing aircraft, heavier than air, that is supported in flight by the dynamic reaction of the air against its wings.

### airplot/AP

A continuous plot of the graphic representation of true heading and air distance.

### airport

An area on land or water that is used or intended to be used for the landing and takeoff of aircraft and any appurtenant areas which are used, or intended for use for buildings and facilities located thereon.

1. major -- An airport facility which handles a high volume of IFR air traffic.
2. satellite -- An airport facility in which a low volume of IFR air traffic is handled, and which is near a major airport.
3. air carrier airport -- An existing public airport regularly served, or a new airport which will be regularly served by a certificated air carrier (other than a supplemental air carrier).
4. commuter service airport -- An air carrier airport which is regularly served by one or more air carriers (certificated under section 401 of the FAA Act) at which not less than 2,500 passengers were enplaned in

the aggregate by all such carriers during the preceding calendar year.

5. general aviation airport -- A public airport, which is not an air carrier airport, used primarily for general aviation operations.
6. reliever airport -- A general aviation airport designated as having the primary function of relieving congestion (by diverting general aviation traffic) at an air carrier airport.

#### airport acceptance negotiations

Negotiations of airport acceptance rates between central flow specialists and ACF/TCF controllers.

#### airport acceptance rate/AAR

The maximum number of aircraft which can land at an given airport for a given time period, usually specified in aircraft per hour. This dynamic input parameter specifies the number of arriving aircraft which an airport or airspace can accept from the ARTCC per hour. The AAR is used to calculate the desired interval between successive arrival aircraft.

#### airport advisory area

The area within ten miles of an airport without a control tower or where the tow is not in operation, and on which a Flight Service Station is located. See airport advisory service. (Refer to AIM)

#### Airport Advisory Service/AAS

A service provided by flight service stations located at airports not serviced by a control tower. This service consists of providing information to arriving and departing aircraft concerning wind direction and speed, favored runway, altimeter setting, pertinent known traffic, pertinent known field conditions, airport taxi routes and traffic patterns, and authorized instrument approach procedures. This information is advisory in nature and does not constitute an ATC clearance. See airport advisory area.

#### airport control zone

Aiispace within a five mile radius up to 2,000 feet around airport is designated as the airport control zone. Traffic usually avoids entry unless the nature of the flight demand



it. Two-way radio is required within the control zone of tower-equipped airports. See positive control area.

#### airport development

Any work involving construction, improvement or repair to a public airport or portion thereof (excluding routine maintenance and the construction, improvement, repair of airport hangars or public parking facilities for passenger automobiles); the removal, lowering, relocation marking and lighting of airport hazards; navigation aids used by aircraft landing at, or taking off from, a public airport; safety equipment required by regulation for certification of the airport; security equipment required of the sponsor by rule or regulation for the safety and security of persons and property on the airport; snow removal equipment; the purchase of noise suppressing equipment, the construction of physical barriers and landscaping for the purpose of diminishing the effect of aircraft noise on any area adjacent to a public airport; acquisition of land or of any interest therein, or of any easement through or other interest in airspace, including land for future airport development which is necessary to permit any such work or to remove or mitigate or prevent or limit the establishment of airport hazards or to insure that such land is used only for purposes which are compatible with noise levels of the operation of a public airport; and terminal development.

#### Airport District Office/ADO

These FAA offices are outlying units or extensions of regional Airports Divisions. They advise and assist public agencies and their agents with the submission of project requests for establishing, improving, equipping, and financing of airports under the Airport Development Aid Program and in obtaining surplus airport property under the Surplus Property Disposal Program. They also provide advisory services to the owners and operators of both public and private airports regarding the operation and maintenance of their airports.

#### airport environment data

Any current, dynamic information concerning an airport's condition that may be of importance to a pilot, flight service specialist or controller which has not already been included in a NOTAM.

#### airport elevation/field elevation

The highest point of an airport's usable runway measured in feet from mean sea level. See touchdown zone elevation.

### airport facility directory

A publication designed primarily as a pilot's operational manual containing all airports, seaplane bases, and heliports open to the public including communications data, navigational facilities, and certain special notices and procedures. This publication is issued in seven volumes according to geographical area.

### airport hazard

Any structure or object of natural growth located on or in the vicinity of a public airport, or any use of land near such airport, which obstructs the airspace required for the flight operations of aircraft landing or taking off or which might otherwise be hazardous to the operation of such aircraft.

### Airport Information Desk/AID

A local airport unmanned facility designed for pilot self-service briefing, flight planning and filing of flight plans. (Refer to AIM)

### airport lighting

Various lighting aids that may be installed on an airport. Types of airport lighting include:

1. Approach Light System/ALS -- An airport lighting facility which provides visual guidance to landing aircraft by radiating light beams in a directional pattern by which the pilot aligns the aircraft with the extended centerline of the runway on his final approach for landing.

Condenser-Discharge Sequential Flashing Lights/Sequenced Flashing Lights may be installed in conjunction with the ALS at some airports. Types of Approach Light Systems are:

- a. ALSF-1 -- Approach Light System with Sequenced Flashing Lights in ILS Cat-I configuration.
- b. ALSF-2 -- Approach Light System with Sequenced Flashing Lights in ILS CAT-II configuration. The ALSF-2 may operate as an SSALF when weather conditions permit.
- c. SSALF -- Simplified Short Approach Light System with Runway Alignment Indicator.

- d. SSALR -- Simplified Short Approach Light System with Runway Alignment Indicator Lights.
  - e. MALSF -- Medium Intensity Approach Light System with Sequenced Flashing Lights.
  - f. MALSR -- Medium Intensity Approach Light System with Runway Alignment Indicator Lights.
  - g. LDIN -- Sequenced Flashing Lead-in Lights.
  - h. RAIL -- Runway Alignment Indicator Lights (Sequenced Flashing Lights which are installed only in combination with other light systems).
  - i. ODALS -- Omni-directional Approach Lighting System consists of seven omni-directional flashing lights located in the approach area of a non-precision runway. Five lights are located on the runway centerline extended with the first light located 300 feet from the threshold and extending at equal intervals up to 1,500 feet from the threshold. The other two lights are located, one on each side of the runway threshold, at a lateral distance of 40 feet from the runway edge, or 75 feet from the runway edge when installed on a runway equipped with a VASI. (Refer to FAA Order 6850.2A)
- 2. Runway Lights/Runway Edge Lights -- Lights having a prescribed angle of emission used to define the lateral limits of a runway. Runway lights are uniformly spaced at intervals of approximately 200 feet, and the intensity may be controlled or preset.
  - 3. Touchdown Zone Lighting -- Two rows of transverse light bars located symmetrically about the runway centerline normally at 100 foot intervals. The basic system extends 3,000 feet along the runway.
  - 4. Runway Centerline Lighting -- Flush centerline lights spaced at 50-foot intervals beginning 75 feet from the landing threshold and extending to within 75 feet of the opposite end of the runway.
  - 5. Threshold Lights -- Fixed green lights arranged symmetrically left and right of the runway centerline, identifying the runway threshold.
  - 6. Runway End Identifier Lights/REIL -- Two synchronized flashing lights, one on each side of the runway threshold, which provide rapid and positive

identification of the approach end of a particular runway.

7. Visual Approach Slope Indicator/VASI -- An airport lighting facility providing vertical visual approach slope guidance to aircraft during approach to landing by radiating a directional pattern of high intensity red and white focused light beams which indicate to the pilot that he is "on path" if he sees red/white, "above path" if white/white, and "below path" if red/red. Some airports serving large aircraft have three-bar VASIs which provide two visual glide paths to the same runway.
8. Boundary Lights -- Lights defining the perimeter of an airport or landing area. (Refer to AIM)

#### airport marking aids

Markings used on runway and taxiway surfaces to identify a specific runway, a runway threshold, a centerline, a hold line, etc. A runway should be marked in accordance with its present usage such as: visual, non-precision instrument, precision instrument. (Refer to AIM)

#### airport master planning

Information and guidance needed to determine the extent, type and nature of development needed at a specific airport. It may include the preparation of feasibility studies, including the potential use and development of land surrounding an actual or potential airport site, as well as associated studies, surveys and planning actions necessary to determine the short, intermediate and long range aeronautical demands required to be met by a particular airport as part of a system of airports.

#### airport noise compatibility program

Any program developed in accordance with FAR Part 150 which includes the measures taken or proposed by the airport operator to reduce existing non-compatible land uses and to prevent the introduction of additional non-compatible land uses within that area.

#### airport noise exposure map

A scaled, geographic depiction of an airport, its noise contours, and surrounding area developed in accordance with FAR Part 150.

### airport operator

Any person(s) having the operational control of an airport.

### airport operator use restriction

Actions taken by an airport operator which establishes limits on the use of the airport in terms of the number, noise level, manner or time of aircraft operations at that airport.

### Airport Radar Service Area/ARSA

An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any. A fix name adapted in airport adaptation with complete airport data. This airport may have one or more satellite airports associated with it. See controlled airspace.

### airport reservation negotiations

The communications, via telephone, between ATC Command Center personnel and an airline dispatch office, military base operations or FSS personnel concerning airport reservations. This negotiation process may result in a shifting of allocations. See airport reservation request.

### airport reservation request

A request for the allocation of a time-slot at a high density airport.

### airport reservation response

The response to an airport reservation request (approval or rejection of the requested time-slot at a high density airport).

### airport rotating beacon

A visual NAVAID operated at operated at many airports. At civil airports, alternating white and green flashes indicate the location of the airport. At military airports, the beacon flashes alternately white and green, but are differentiated from civil beacons by dual peaked (two quick) white flashes between the green flashes. See Special VFR operations, instrument flight rules. (Refer to AIM, Rotating Beacons)

### Airport Surface Detection Equipment/ASDE

Radar equipment specifically designed to detect all principal features on the surface of an airport, including vehicular traffic, and to present the entire picture on a radar indicator console in the control tower. ASDE has a maximum range of four miles, though its 16 inch diameter scope usually displays an area of only one mile radius about the control tower.

1. ASDE display -- Information displayed to a controller or other operator showing the position of aircraft and other vehicles on the airport surface.

### Airport Surveillance Radar/ASR

FAA short-range radar for terminal air traffic control. Radar providing position of aircraft by azimuth and range data without elevation data. Various models are designed for ranges of from 30 to 60 miles.

### airport system plan

Information and guidance to determine the extent, type, nature, location and timing of airport development needed in a specific area to establish a viable and balanced system of public airports. IT includes the identification of the specific aeronautical role of each airport within the system, development of estimates of system wide development costs and the conduct of such studies, surveys and other planning actions as may be necessary to determine the demands required by a particular system of airports.

### airport traffic area

Unless otherwise specifically designated in FAR Part 93, that airspace within a horizontal radius of five statute miles from the geographical center of any airport at which a control tower is operating, extending from the surface up to, but not including, an altitude of 3,000 feet above the elevation of an airport. Unless otherwise authorized or required by ATC, no person may operate an aircraft within an airport traffic area except for the purpose of landing at or taking off from an airport within that area. ATC authorizations may be given as individual approval of specific operations or may be contained in written agreements between airport users and the tower concerned. (Refer to FAR, Parts 1 and 91)

### airport traffic control service

A service provided by a control tower for aircraft operating on the movement area and in the vicinity of an airport. See movement area, tower.

### Airport Traffic Control Tower/ATCT

A terminal facility which through the use of air/ground communications, visual signaling, and other devices, provides air traffic control (ATC) services to airborne aircraft operating in the vicinity of an airport and to aircraft operating on the movement area.

### airport utilization report

A report from the ATC Command Center containing information pertaining to traffic flow at high traffic density airports.

### airport utilization request

A request for information from the traffic management system pertaining to the traffic flow at high traffic density airports.

### airspeed/AS

The speed of an aircraft relative to it's surrounding air mass. The unqualified term "airspeed" means one of the following:

1. calibrated airspeed/CAS -- Indicated airspeed corrected for pitot static installation and/or the altitude of the aircraft.
2. equivalent airspeed/EAS -- Calibrated airspeed corrected for compressibility of air error.
3. indicated airspeed/IAS -- The uncorrected reading shown on the aircraft airspeed indicator. This is the speed used in pilot/controller communications under the general term "airspeed." (Refer to FAR Part 1)
4. true airspeed -- The airspeed of an aircraft relative to undisturbed air. Used primarily in flight planning and en route portions of flight. When used in pilot/controller communications, it is referred to as "true airspeed" and not shortened to "airspeed."

### airspeed indicator/ASI

An instrument which gives a measure of the rate of motion of an aircraft relative to the surrounding air.

### airship

An engine-driven lighter-than-air aircraft that can be steered.

### airspace

The earth's layer of surrounding air, from the surface to at least 70,000 feet. See special use airspace.

### airspace management

A term invoked to replace air traffic control and airspace control in recognition of the philosophy of "service" versus "control."

### airspace user

Operating entities who cause air vehicles to occupy elements of the airspace.

### airstart

The starting of an aircraft engine while the aircraft is airborne, preceded by engine shutdown during training flights or by actual engine failure.

### airway/federal airway

(1) A control area or portion thereof established in the form of a corridor, the centerline of which is defined by radio navigational aids. (2) An abbreviation for a sequence of fixes defining an air route which is used when filing flight plans. A named, adapted route defined as a series of adapted fixes and junctions. (Refer to FAR Part 71, AIM)

### airway (ICAO)

A control area or portion thereof established in the form of corridor equipped with radio navigational aids.

### airway beacon

Used to mark airway segments in remote mountain areas. The light flashes Morse Code to identify the beacon site. (Refer to AIM)



### Airway Facilities Sector/AFS

Airway Facilities Sectors (AFS) are major FAA organizational elements operating in the field environment. They handle system maintenance operations and provide engineering services on a day-to-day basis under the general direction of the regional AF Division having purview. These organizations conduct a maintenance and certification program to assure the continued operation, accuracy and reliability of all air traffic control, air navigation, communication facilities and ancillary equipment assigned to them.

### Airway Facilities Sector Field Office/AFSFO

An FAA organizational element that is subordinate to the Airways Facilities Sector which is located away from the sector headquarters. It is sometimes the reporting point for one or more technical units called Airway Facilities Field Office Units (AFSFOU).

### Airway Facilities Sector Field Unit/AFSFU

A remote FAA organizational unit directly subordinate to an Airway Facilities Sector Office but with responsibilities similar to an Airway Facilities Sector Field Office Unit.

### alarm

(1) When sub-system critical parameter exceeds established operational limits causing a loss of service to the operator or user. (2) An aural signal to the pilot containing information relevant to collision avoidance. This term is synonymous with advisory.

### albedo

The ratio of the amount of electromagnetic radiation reflected by a body to the amount incident upon it, commonly expressed in percentage; in meteorology, usually used in reference to insolation (solar radiation); i. e. the albedo of wet sand is 9, meaning that about 9% of the incident insolation is reflected. Albedos of other surfaces range upward to 80-85 for fresh snow cover. The average albedo for the earth and it's atmosphere has been calculated to range from 35 to 43.

### alert

(1) The notification of others to the fact that a critical situation may be approaching or impacting the receiver, as in alerting airport facilities of an aircraft having in-

flight difficulties. (2) A sub-system performance parameter which exceeds a predetermined threshold but does not cause loss of service to the operator or user.

#### alert area

Airspace which may contain a high volume of pilot training activities or an unusual type of aerial activity. See special use airspace.

#### alert notice/ALNOT

A Message sent by a flight service station/FSS or an air route traffic control center/ARTCC that requests an extensive communication search for overdue, unreported, or missing aircraft.

#### algorithm

A set of well defined rules for the solution of a problem in a finite number of steps.

#### alien

Any person not a citizen or national of the United States. See immigrant alien, foreign national.

#### align

(1) To adjust. (2) To form a line. (3) To set to equivalent specifications.

#### alpha-numeric(s)

Characters which may be either letters of the alphabet or numbers. Symbolic characters and punctuation marks found on the alphanumeric keyboard are also considered alphanumerics.

1. alpha-numeric data -- Letters and numerals used to show identification, altitude, beacon code, and other information concerning a target on a radar display. See Automated Radar Terminal Systems, NAS Stage A.
2. alpha-numeric display -- A display on a CRT which is composed of alphanumeric data in either tabular or non-tabular form.
3. alpha-numeric display/data block -- Letters and numerals used to show identification, altitude, beacon code, and other information concerning a target on a radar display. (See Automated Radar Terminal Systems, NAS Stage A)

4. alpha-numeric keyboard/keypack -- A device for entry of data into the Central Computer Complex; consists of individual alphanumeric and special symbol keys, keys to control device operation, and lamps to indicate device and input message status.

alpha particle

A particle emitted spontaneously from the nuclei of some radioactive elements. It is identical with a helium nucleus and consists of two protons and two neutrons; it has an electric charge of two positive units.

alter course

A term which means a change in course to a destination or a turning point.

alter heading

A term which means a change in heading to make good the intended course.

alternate

A backup device or mode to be utilized in lieu of other primary units or mode.

alternate airport

An airport at which an aircraft may land if a landing at the intended airport becomes inadvisable.

alternate airport (ICAO)

An aerodrome specified in the flight plan to which a flight may proceed when it becomes inadvisable to land at the aerodrome of intended landing.

alternate entry track

A track along which en route descent is made to an intermediate point on a military training route.

1. alternate penetration fix -- The fix from which a military training route alternate entry track begins. This fix is described by reference to a ground based navigational aid.

## altimeter

An instrument that measures the elevation of an aircraft above a given datum plane.

## altimeter setting

(1) Station pressure reduced to sea level, expressed in inches of mercury or millibars. (2) The value of atmospheric pressure to which the scale of a pressure altimeter is set. When this value is set into the altimeter, the instrument reading is indicated true altitude. (After United States practice, the setting represents the pressure required to make the altimeter indicate zero altitude at an elevation of ten feet above mean sea level. Thus, at the height of ten feet above airport elevation (approximate cockpit height), the altimeter should indicate the airport elevation.) (Refer to FAR Part 91, AIM)

1. altimeter setting indicator -- A precision aneroid barometer calibrated to indicate directly the altimeter setting.

## altitude

(1) The height of an aircraft above a given datum. (2) The height of a level, point, or object measured in feet above an implied reference level. See flight level.

1. absolute altitude/AA -- True altitude corrected for terrain elevation (i.e. the vertical distance of an aircraft above the terrain).
2. AGL altitude -- Altitude expressed in feet measured above ground level.
3. basic pressure altitude/BPA -- Indicated pressure altitude corrected for instrument error. Also known as flight level pressure altitude/FL PA.
4. corrected altitude -- Indicated altitude of an aircraft altimeter corrected for the temperature of the column of air below the aircraft. The correction is based on the estimated departure of existing temperature from standard atmospheric temperature; an approximation of true altitude.
5. density altitude/DA -- (1) The altitude in the standard atmosphere at which the air has the same density as the air at the point in question. An aircraft will have the same performance characteristics as it would have

in a standard atmosphere at this altitude. (2) Basic pressure altitude corrected for temperature (i.e. the vertical distance of an aircraft above a standard datum plane).

6. indicated altitude -- The altitude above mean sea level indicated on a pressure altimeter set at current local altimeter setting.
7. indicated pressure altitude/IPA -- The altitude as shown by an altimeter. On a pressure or barometric altimeter it is altitude as shown uncorrected for instrument error and uncompensated for variation from standard atmospheric conditions (i.e. 29.92 set in the Kollsman window).
8. MSL altitude -- Altitude expressed in feet measured from mean sea level.
9. pressure altitude -- The altitude in the standard atmosphere at which the pressure is the same as at the point in question. Since an altimeter operates solely on pressure, this is the uncorrected altitude indicated by an altimeter set at standard sea level pressure of 29.92 inches or 1013 millibars.
10. radar altitude -- The altitude of an aircraft determined by radar-type radio altimeter; thus the actual distance from the nearest terrain or water feature encompassed by the downward directed radar beam. For all practical purposes, it is the "actual" distance above ground or inland water surface or the true altitude above an ocean surface.
11. true altitude/TA -- The density altitude corrected for pressure altitude variation/PAV (i.e. the vertical distance above mean sea level).

#### altitude (ICAO)

The vertical distance of a level , a point or an object considered as a point, measured from mean sea level.

#### altitude delay

A controlled delay applied to the start of the (electronic) trace to eliminate the altitude hole on a PPI type display. See altitude hole.

### altitude engine

A reciprocating aircraft engine having a rated takeoff power that is producible from sea level to an established higher altitude.

### altitude hole

The blank area in the center of a PPI display, the outer edge of which represents the point on the ground immediately beneath the aircraft.

### altitude readout/automatic altitude report

An aircraft's altitude, transmitted via the Mode C transponder feature, that is visually displayed in 100 foot increments on a radar scope having readout capability. See Automated Radar Terminal Systems, NAS Stage A, alphanumeric display. (Refer to AIM)

### altitude reservation/ALTRV

Airspace utilization under prescribed conditions, normally employed for the mass movement of aircraft or other special user requirements which cannot otherwise be accomplished. ALTRV's are provided by the central altitude reservation function (CARF). Although predominantly military in nature, ALTRVs may be obtained by other organizations. See Air Traffic Control Command Center.

1. altitude reservation negotiation -- Discussions by phone between ARTCC personnel and an airline dispatch office, military base operations, or FSS personnel concerning altitude reservation requests.
2. altitude reservation request -- A request for airspace utilization under prescribed conditions normally employed for the mass movement of aircraft or other special user requirements which cannot otherwise be accomplished. These requests are approved by the ARTCCC.
3. altitude reservation response -- The response (approval, modification or rejection) of an altitude reservation request by the ATCCC.
4. altitude utilization report -- Information from the traffic management system concerning approved reservation of airspace.

5. altitude utilization request -- The request for information from the traffic management system concerning approved reservations of airspace.

#### altitude restriction

An altitude or altitudes, stated in the order flown, which are to be maintained until reaching a specific point or time. Altitude restrictions may be issued by ATC due to traffic, terrain, or other airspace considerations.

#### altitude restrictions are canceled

Adherence to previously imposed altitude restrictions are no longer required during a climb or descent.

#### altocumulus

White or gray layers or patches of clouds, often with a waved appearance. Cloud elements appear as rounded masses or rolls; composed mostly of liquid water droplets which may be super cooled. They may also contain ice crystals at subfreezing temperatures.

1. altocumulus castellanus -- A species of middle cloud of which at least a fraction of its upper part presents some vertically developed, cumuliform protuberances (some of which are taller than they are wide, as castles) and which give the cloud a crenelated or turreted appearance. Clouds of this type are especially evident when seen from the side; elements usually have a common base arranged in lines. This cloud indicates instability and turbulence at the altitude of occurrence.

#### ALTRV formations

See formation flights.

#### amber warning

An air defense term that postures (prepares and/or positions) aircraft prior to being launched for survival. It may precede a flush order.

#### amplitude jitter

Undesired amplitude modulation on a received signal. Amplitude jitter is the summation of incidental amplitude modulation (sidebands symmetrically located around a carrier) and random or quantizing noise encountered on the facility.

### analyze

To examine individual items to make sure a judgement on the entire situation, such as conditions which influence the ability to provide flight following. (Similar to "review" but suggests a one time effort rather than a more repetitious action.)

### analog

(1) A quantity which is infinitely precise. (2) The representation of numerical quantities by means of physical variables; e.g., translation, rotation, voltage, or resistance.

### analog video, raw

Unprocessed video from a radar receiver.

### analysis

See cost-risk analysis, cryptanalysis, risk analysis.

### anchor area

A defined area encompassing both a racetrack shape aerial refueling track and its protected airspace.

1. anchor point -- A designated reference point upon which an anchor refueling track is oriented.

### anemometer

An instrument used for measuring wind speed.

### aneroid barometer

A barometer which operates on the principal of having changing atmospheric pressure bend a metallic surface which, in turn, moves a pointer across a scale graduated in units of pressure.

### angel

In radar meteorology, an echo caused by physical phenomena not discernible to the eye; they have been observed when abnormally strong temperature and/or moisture gradients were known to exist. The phenomena is sometimes attributed to insects or birds flying in the radar beam.



### angle of convergence

The angle formed between a converging flight track, radial or bearing and a great circle route. The ideal angle of convergence for computing intersections along a great circle route is an angle of 90°.

### angle of divergence (minimum)

The smaller of the angles formed by the intersection of two courses, radials, bearings, or combinations thereof.

### Anomalous Propagation/AP

In radar meteorology, the greater than normal bending of the radar beam such that echos are received from ground targets at distances greater than normal ground clutter.

### annotations

Manual additions to various automatically generated information, an example of which would be annotated to weather products by meteorologists, to enhance, supplement, or draw attention to special data, or to create additional new products.

### annually

A scheduling term, meaning once every calendar year, and at approximately twelve month intervals (10 to 14 months).

### annulling network

An arrangement of impedance elements connected in parallel with a filter to annul or cancel capacitive or inductive impedance at the extremes of a filter's passband.

### anticyclone

An area of high atmospheric pressure which has a closed circulation that is anticyclonic, i.e., as viewed from above, the circulation is clockwise in the Northern Hemisphere, counter-clockwise in the Southern Hemisphere, undefined at the Equator.

### anvil cloud

A popular name given to the top portion of a cumulonimbus cloud having an anvil like formation.

aperture card

A tabulating card with a rectangular hole specifically prepared for the mounting of a frame of 35 mm microfilm.

aperture diameter

The diameter of a radar main beam at its point of origin. Because of the properties of electromagnetic radiation, the angle of spread of a projected beam is related in an inverse manner to the size of the aperture.

APOB

A sounding (meteorological) made by an aircraft.

appearances

As applied to communications key equipment, service outlets which are additional to the primary termination.

appliance

Any instrument, mechanism, equipment, part, apparatus, appurtenance or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight, is installed in or attached to the aircraft, and is not part of an airframe, engine or propeller.

application

A problem or task which a computer is assigned to perform.

applique circuit .

A circuit that can be added to a complete basic circuit to increase, or change, the possible applications of the basic circuit. For example, some carrier telephone equipment designed for dial signaling can be converted to ring-down signaling through the use of an applique circuit.

approach clearance

Authorization by ATC for a pilot to conduct an instrument approach for which a clearance and other pertinent information is provided in the approach clearance when required. See instrument approach procedure, cleared for approach. (Refer to FAR Part 91 and AIM)

### approach control

The control process which delivers aircraft to the final approach course or landing system properly spaced for their landing. This process is also called final spacing control.

### approach control area/approach control air space

One or more contiguous fix posting areas controlled by an approach control facility. Approach control air space may overlie or underlie air space controlled by ARTCC sectors or adjacent approach control facilities.

### approach control facility

An air traffic control facility exercising control within a delegated block of air space and providing approach control service.

### approach control service

Air traffic control service, provided by an approach control facility for arriving and departing VFR/IFR aircraft and on occasion, en route aircraft. At some airports not served by an approach control facility, the ARTCC provides limited approach control service. (Refer to AIM)

### approach control service (ICAO)

Air traffic service for arriving or departing controlled flights.

### approach fix

The fix from or over which final approach (IFR) to an airport is executed.

### approach gate

An imaginary point used within ATC as a basis for vectoring aircraft to the final approach course. The gate is established along the final approach course 1 mile from the outer marker (or the fix used in lieu of the outer marker) on the side away from the airport for precision approaches and 1 mile from the final approach on the side away from the airport for non-precision approaches. In either case when measured along the final approach course, the gate is no closer than 5 miles from the landing threshold.

### approach light system

See airport lighting.

### approach sequence

The order in which aircraft are positioned while awaiting approach clearance or while on approach. See landing sequence.

### approach sequence (ICAO)

The order in which two or more aircraft are cleared to approach to land at the aerodrome.

### approach specific data

Information about a specific runway/airport where an approach terminates. This could include runway visual range, weather conditions, runway conditions, etc.

### approach speed

The recommended speed contained in aircraft manuals used by pilots when making a approach to landing. This speed will vary for different segments of an approach as well as for aircraft weight and configuration.

### appropriate data

This term refers to data that has already been defined in earlier sections of a document as normally flowing between specific pieces of equipment.

### appropriate voice

This term is used in a similar way to the term appropriate data and refers to voice information passing from processor (voice generated) to people or person to person.

### approve

To respond favorably to a request, as in approving a clearance request.

### approved

Unless used with reference to another person, means approved by the Administrator.

### approved circuit

Synonym for protected wire-line distribution system.

### approved software modifications

Computer code which has been developed, thoroughly tested and approved prior to field implementation.

### apron/ramp

A defined area on an airport or heliport intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance. With regard to seaplanes, a ramp is used for access to the apron from the water.

### apron (ICAO)

A defined area, on land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking or maintenance.

### APULS

An automatic device used to transmit in sequence the two letter T/D (Transmitter/Distributor Unit) "start" functions of the stations on multi-terminal teletypewriter circuits. It can also be programmed to send relay check messages to the circuit. See Transmitter/Distribute Unit (T/D).

### arc

The track over the ground of an aircraft flying at a constant distance from a NAVAID by reference to distance measuring equipment (DME).

### architecture

The overall conceptual design of a system.

### Arctic air

An air mass with characteristics developed mostly in winter over Arctic surfaces of ice and snow. Arctic air extends to great heights, and the surface temperatures are basically, but not always, lower than those of polar air.

### Arctic front

The surface of discontinuity between very cold (Arctic) air flowing directly from the Arctic region and another less cold and, consequently, less dense air mass.

### area

A specified geographical location. The term includes both land and water.

### area B

Low-speed (100 wpm) multi-point teletypewriter communication circuits connecting certain FAA facilities within each ARTCC area boundary. Each Area B circuit consists of a loop of TTY terminals. Transmission from individual stations is in sequence, controlled by an APULS. See Loop, service B.

1. area B TTY -- A teletypewriter circuit (network) to which FAA Flight Service Stations are connected.

### Area Control Facility/ACF

A facility which resulted from the consolidation of ARTCC and TRACON/TRACAB facilities. An ACF may be formed from an existing ARTCC or may be created in a new building. The number, location, and implementation dates of ACFs will be in accordance with the NAS Plan.

1. ACF support meteorologist -- A meteorologist stationed at each ACF with equipment organized for the purpose of detecting, displaying and disseminating weather information in a timely manner.

### area knowledge

The knowledge of current procedures, operation of equipment, letters of agreement and any other subject pertinent to an ATC facility or area of specialty

### Area Navigation/RNAV

A method of navigation that permits aircraft operations on any desired course within the coverage of station-referenced navigation signals or within the limits of self-contained system capability. Random Area Navigation routes are direct routes, based on area navigation capability, between waypoints defined in terms of latitude/longitude coordinates, degrees/distance fixes, or offsets from published or established routes/airways at a specified distance and direction. See RNAV.

1. Area Navigation (ICAO) -- A method of navigation which permits aircraft operating on any desired flight path within the coverage of stations-referenced navigation aids or within the limits of the capability of self-contained aids or a combination of these.

The major types of equipment are:

1. VORTAC referenced or Course Line Computer/CLC systems which account for the greatest number of RNAV units in use. To function, the CLC must be within the service range of a VORTAC.
2. OMEGA/VLF, although two separate systems, can be considered as one operationally. A long-range navigation system based upon Very Low Frequency radio signals transmitted from a total of 17 stations worldwide.
3. Inertial/INS systems, which are totally self contained and require no information from external references. They provide aircraft position and navigation information in response to signals resulting from inertial effects on components within the system.
4. MLS Area Navigation, which provides area navigation with reference to MLS ground facilities.
5. LORAN-C is a long-range radio navigation system that uses ground waves transmitted at low frequency to provide user position information at ranges of up to 600 to 1200 nautical miles at both en route and approach altitudes. The usable signal coverage areas are determined by the signal-to-noise ratio, the envelope-to-cycle difference, and the geometric relationship between the positions of the user and the transmitting stations.

#### area route

Each area low route is based on a centerline that extends from one waypoint to another waypoint (or through several waypoints) specified for that area low route. An area low route does not include the airspace of a prohibited area. All mileage specified in connection with area low routes are nautical miles and are normally limited to that airspace within parallel boundary lines 4 or more nautical miles on each side of the route centerline defined by a line from a reference facility to a tangent point on the centerline plus the additional airspace outside of those parallel lines and within lines drawn outward from those parallel lines at an angle of 3.25°, beginning at a specified distance from the tangent point.

Each area low route includes that airspace extending upward from 1,200 feet above the surface of the earth to but not including 18,000 feet MSL, except that area low routes for

Hawaii have no upper limits. Variations of the lower limit of an area low route are expressed in digits representing hundreds of feet above the surface (AGL) or mean sea level (MSL) and, unless otherwise specified, apply to the route segment between adjoining waypoints used in the description of the route. The airspace of an area low route within the lateral limits of a transition area has a floor coincident with the floor of the transition area.

1. Area Navigation/RNAV route, designated -- An RNAV route, based on the current high altitude or low altitude VOR/DME coverage, as designated by the Administrator.
2. Area Navigation/RNAV route, established -- A predefined en route segment, arrival or departure route (including RNAV SIDS and STARS).

#### Area Positive Control/APC

Exists in the continental U. S. above 24,000 feet (18,000 feet in the Northeast corridor). Only IFR operations, with the required increased level of avionics and pilot proficiency (IFR rating), are allowed at these altitudes. See positive control airspace, airport control zone, positive control area.

#### Aries, first point of

That point on the equinoctial where the sun moving along the ecliptic passes from south to north declination. Also known as vernal equinox.

#### ARINC (Aeronautical Radio Incorporated)

An independent corporation which provides high speed data and radio communication services to its subscribers.

#### arithmetic, fixed point

(1) A method of calculation in which operations take place in an invariant manner, and in which the computer does not consider the location of the radix point. This is illustrated by desk calculators or slide rules, with which the operator must keep track of the decimal point. Similarly with many automatic computers, the location of the radix point is the programmer's responsibility. Contrasted with (arithmetic, floating point). (2) A type of arithmetic in which the operands and results of all arithmetic operations must be properly scaled, so as to have a magnitude between certain fixed values.



### arithmetic, floating point

A method of calculation which accounts automatically for the location of the radix point. This is usually accomplished by handling the number as a signed mantissa multiplied by the radix raised to an integral exponent; e.g., the decimal number + 88.3 might be written as  $+.883 \times 10^2$ ; the binary number - .0011 as  $-.11 \times 2$ . Synonymous with floating decimal arithmetic.

### Armed Forces

The Army, Navy, Air Force, Marine Corps and Coast Guard, including their regular and reserve components and members serving without component status.

### Army Aviation Flight Information Bulletin/USAFIB

A bulletin that provides air operation data covering Army, National Guard, and Army Reserve aviation activities.

### arresting system

A safety device consisting of two major components, namely, engaging or catching devices and energy absorption devices for the purpose of arresting both tail-hook and/or non-tail-hook equipped aircraft. It is used to prevent aircraft from over-running runways when the aircraft cannot be stopped after landing or during aborted takeoffs. Arresting systems have various names; e.g., arresting gear, hook device, wire barrier cable. See abort. (Refer to AIM)

### arrival aircraft interval/AAI

An internally generated program in hundredths of minutes based on AAR. AAI is the desired optimum interval between successive arrival aircraft over the vertex.

### arrival center

The ARTCC having jurisdiction for the impacted airport.

### arrival delay/ADLY

A parameter which specifies a period of time in which no aircraft will be metered for arrival at the specified airport.

arrival flow model

A narrative and graphical representation of arrival routes and associated procedures that will be used as a base to develop a local flow traffic management program.

arrival message

A message stating the actual arrival times of aircraft at a particular airport.

arrival sector

An operational control sector containing one or more meter fixes.

arrival sector advisory list

An ordered list of data on arrivals displayed at the PVD of the sector which controls the meter fix.

arrival time

The time an aircraft touches down on a runway.

ARTCC

See Air Route Traffic Control Center.

artificial constraints

Any imposed procedural limitations to the physical capacity of a facility, including allowances for blunders, weather conditions or gross errors.

artificial line

A series of electrical networks whose characteristics approximate those of a transmission line.

artificial radars

See compartmentalized radars.

as required

Used as a scheduling term, meaning whenever the need has been detected.

## ASCII

An acronym for American Standard Code for International Interchange. It is the accepted term, although a more recent title is USA Standard Code for Information Interchange/USASCII. It has 128 possible information and function combinations and is pronounced "askee." See eight-level code.

1. ASCII code -- An 8-bit code (7 bits plus parity). There are 128 code positions, 95 for graphics and 33 for control. Accepted as the international data code, with the Name International Standard Code for Information Interchange (ISCII). ASCII and ISCII are identical except for some bits for national code.

## aspect ratio

The ratio of the video (display) frame width to the frame height.

## ASR approach

See surveillance approach.

## asset class

A classification of in-use personal property which generally identifies and groups like items.

## assembler

Translates and assembles programs written in symbolic language into the machine language code of the computer and produces a symbolic listing of the program including a listing of all tags used in the program together with all references.

## assembler, adaptation

The Adaptation Controlled Environmental System (ACES) which is a data assembly program which formats input environmental data into the proper tables for use by the Operational Computer Program.

## assembly

Two or more parts or sub-assemblies joined together to perform one or more elementary functions not normally subject to disassembly without losing designed function.

### assembly language

A machine oriented language used for programming a computer.

### assessable unit

A major program or function of an organization, or a subdivision of that program/function, which is to be the subject of a vulnerability assessment.

### assessment

A determination of the amount of reliability and maintainability existing within an item, i.e., system, equipment, component.

### assigned altitude

The currently authorized altitude for an active flight.

### assigned magnetic variation

The magnetic variation assigned to a VOR facility, and to which it is aligned. It is not necessarily the same as the actual value of magnetic variation at the VOR facility location. Therefore, the charted radials emanating from the facility will not necessarily coincide with a magnetic bearing of the same value.

### assistance request

A request for assistance, normally by a pilot to ATC, but it could also be from an FSS specialist or controller.

1. assistance request transmission -- The transmission of an assistance request over a radio frequency link that uses air (free space) as the communications medium.

### association

Current positional agreement between a track and its paired flight plan. Association is measured in coordinates based on the flight plan position and velocity. Longitudinal association and lateral association are measured in nautical miles.

1. associated tracks -- Military training route alternate entry, primary entry, climb-out and re-entry tracks.
2. association area -- Area of parametrically controlled dimensions, bi-symmetrically located about the flight plan position.

3. association status determination -- A process which measures the degree of association between a track and its paired flight plan by determining whether or not the track position is within the association area.
4. association status indicator -- Association status is determined by the Association Checking task for all matched flight plans. The Association Status is set to one of the following: (a) Inside, (b) Out laterally, (c) Out longitudinally and (d) None

assumed position/AP

The geographical position upon which a celestial solution is based.

assurance

The relative confidence or certainty that specific program objectives will be achieved.

astrodome

A transparent bubble mounted on the top of an aircraft fuselage through which celestial observations are taken.

astronomical triangle

A triangle on the celestial sphere bounded by the observer's celestial meridian, the vertical circle, and the hour circle through the body, and having as its vertices the elevated pole, the observer's zenith and the body.

astronomical twilight

See twilight.

asynchronous

Having a variable time interval between successive bits, characters or events. The term asynchronous is usually applied to serial start-stop transmission.

ATC advises

Used to prefix a message of non-control information when it is relayed to an aircraft by other than an air traffic controller. See advisory.

### ATC assigned airspace/ATCAA

Airspace of defined vertical/lateral limits, assigned by ATC for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR air traffic. See military operations area, alert area.

### ATC clears

Used to prefix an ATC clearance when it is relayed to an aircraft by other than an air traffic controller.

### ATC instructions

Directives issued by air traffic control for the purpose of requiring a pilot to take specific actions; e.g., "Turn left heading two five zero," "Go around," "Clear the runway."  
(Refer to FAR Part 91)

### ATC requests

Used to prefix an ATC request when it is relayed to an aircraft by other than an air traffic controller.

### ATC special list

A series of automatically generated reference items which are required to be readily available to the controller for the conduct of ATC. Examples would be arrival aircraft lists, departure aircraft lists and assigned beacon code lists.

### atmospheric pressure

(1) pressure exerted by the atmosphere as a consequence of gravitational attraction exerted upon the column of air lying directly above the point in question (barometric pressure). (2) Air pressure.

### atmospherics

(1) Disturbing effects produced in radio receiving apparatus by atmospheric electrical phenomena such as electrical storms. (2) Static.

### attempt

To try a course of action without predicting the results, as when trying to establish communications with an aircraft.

## attenuation

In radar, any process which reduces power density in radar signals.

1. attenuation distortion -- The difference in loss at one frequency (radio) with respect to the loss at another frequency. Attenuation distortion is specified by placing a limit on the frequencies, in a specific band of frequencies with respect to the loss at a reference frequency (1004 Hz).
2. precipitation attenuation -- Reduction of power density because of absorption or reflection of energy by precipitation.
3. range attenuation -- Reduction of radar power density because of the distance from the antenna. It occurs in the outgoing beam at a rate proportional to  $1/\text{range}^2$ . The return signal is also attenuated at the same rate.

## audit

(1) To conduct the independent review and examination of records and activities in order to test for adequacy of system controls, to ensure compliance with established policy and operational procedures and to recommend any indicated changes in control, policy or procedures. (2) Examination and verification of the documentary evidence, or any part thereof, supporting an item of project cost for which a sponsor has applied for payment.

1. audit trail -- A chronological record of system activities which is sufficient to enable the reconstruction, review and examination of the sequence of environments and activities surrounding or leading to each event in the path of a transaction from its inception to output of final results.

## audio-visuals

All preparation, production and distribution of copy, film, tape and other material intended for use by electronic public broadcast (radio and Television) media.

## aural null

The determination by ear of the point of zero or minimum audio signal from a radio compass, which occurs when the receiver radio signal picked up by the two sides of the rotatable loop antenna cancel one another. This point indicates that the plane of the loop is perpendicular to the

direction of the transmitted signal and is used as a means of determining radio bearing in flight.

### aurora

A luminous, radiant emission over middle and high latitudes confined to the thin air of high altitudes and centered over the earth's magnetic poles. Called "aurora borealis," "northern lights," or "aurora australis" according to its occurrence in the Northern or Southern Hemisphere, respectively.

### authentication

(1) The act of identifying or verifying the eligibility of a station, originator or individual to access specific categories of information. (2) A measure designed to provide protection against fraudulent transmissions by establishing the validity of a transmission, message, station or originator.

1. authenticator -- (1) The means used to identify or verify the eligibility of a station, originator or individual to access specific categories of information. (2) A symbol, a sequence of symbols, or a series of bits that are arranged in a predetermined manner and are usually inserted at a predetermined point within a message or transmission for the purpose of an authentication of the message or transmission.

### authorization

The granting to a user, a program or a process the right of access.

1. authorized persons -- Those persons who have a need-to-know for the classified information involved and who have been determined to be trustworthy by an official authorized to make such a determination.
2. authorizing organization -- An organizational element which is responsible for the approval, implementation (including funding), and documentation of an action.

### auto-boot

The process of automatically loading an operating system into a computer's memory at power up or after resetting the computer. See boot.



### auto-land approach

A precision instrument approach to touchdown and in some cases, through landing roll-out. An auto-land approach is performed by the aircraft autopilot which is receiving position information and/or steering commands from on-board navigation equipment. Auto-land and coupled approaches are flown in VFR and IFR. See coupled approach.

### Automated Flight Service Station/AFSS

A station that provides interactive alphanumeric and graphic work stations for the flight service specialists.

### automated mode

Flight data processing as accomplished with the use of the NAS computer.

### Automated Airport Information System/AAIS

1. AAIS messages -- Messages generated by FSS specialists for broadcast at non-tower airports. These messages could include information such as preferred runway, runway closures, recommended traffic patterns, airport common traffic advisory frequency plus other useful information such as availability of fuel, how to turn on runway lights, etc.

### automated data processing

Data processing performed largely by automatic means; for example, by a system of electronic or electrical machines, including input, processing and output operations.

### Automated Information System/AIS

An assembly of computer equipment, facilities, personnel, software and procedures configured for the purpose of storing, calculating, computing, summarizing, storing and retrieving data and information with a minimum of human intervention. Automated Information Systems are generally of two types: general purpose systems; which support the management of resources, perform administrative data processing functions or facilitate internal administrative communications, and special purpose systems; which include systems used in the actual or simulated control of air traffic, those used for the development of ATC software and those which support ATC operations by performing communications processing and message switching functions.

1. AIS activity -- Any facility, installation, room, area or building housing AIS equipment and where computer processing activities occur. See central computer complex.
2. AIS security -- The hardware/software functions, characteristics and features; operational procedures, accountability procedures and access controls at a central computer facility, remote computer and terminal facilities; and the management constraints, physical structure, and devices; personnel and communications controls needed to provide an acceptable level of protection for a computer system.

#### Automated Radar Terminal System/ARTS

The generic term for the ultimate in functional capability afforded by several automation systems. Each differs in functional capabilities and equipment. ARTS plus a suffix roman numeral denotes a specific system. A following letter indicates a major modification to that system. In general, an ARTS displays for the terminal controller aircraft identification, flight plan data, other flight associated information; e.g., altitude, speed, and aircraft position symbols in conjunction with a radar presentation. Normal radar co-exists with the alphanumeric display. In addition to enhancing visualization of the air traffic situation, ARTS facilitates intra/inter-facility transfer and coordination of flight information. These capabilities are enabled by specially designed computers and sub-systems tailored to the radar and communications equipment and operational requirements of each automated facility. Modular design permits adoption of improvements in computer software and electronic technologies as they become available while retaining the characteristics unique to each system.

1. ARTS I -- A system originally installed at Atlanta Tower, by UNIVAC (UNISYS) under contract to FAA. The genesis of this system, which is no longer operational, was the Navy Tactical Data System/NTDS.
2. ARTS IA -- A system, which is no longer operational, was installed in the New York Common IRF Room. It was a multi-radar version of the ARTS I.
3. ARTS II -- A programmable non-tracking, computer aided display sub-system capable of modular expansion. ARTS II systems provide a level of automated air traffic control capability at terminals having low to medium activity. Flight identification and altitude may be associated with the display of secondary radar targets.

The system has the capability of communicating with ARTCC's and other ARTS II, IIA, III and IIIA facilities.

4. ARTS IIA -- A programmable radar-tracking computer subsystem capable of modular expansion. The ARTS IIA detects, tracks, and predicts secondary radar targets. The targets are displayed by means of computer-generated symbols, ground speed, and flight plan data. Although it does not track primary radar targets, they are displayed coincident with the secondary radar as well as the symbols and alphanumerics. The system has the capability of communicating with ARTCC's and other ARTS II, IIA, III, and IIIA facilities.
5. ARTS III -- The Beacon Tracking Level/BTL of the modular programmable automated radar terminal system in use at medium to high activity terminals. ARTS III detects, tracks, and predicts secondary radar-derived aircraft targets. These are displayed by means of computer-generated symbols and alphanumeric characters depicting flight identification, aircraft altitude, ground speed, and flight plan data. Although it does not track primary targets, they are displayed coincident with secondary radar as well as the symbols and alphanumerics. The system has the capability of communicating with ARTCC's and other ARTS III facilities.
6. ARTS IIIA -- The Radar Tracking and Beacon Tracking Level/RT&BTL of the modular programmable automated radar terminal system. ARTS IIIA detects, tracks, and predicts primary as well as secondary radar-derived aircraft targets. This more sophisticated computer driven system upgrades the existing ARTS III system by providing improved tracking, continuous data recording, and fail-soft capabilities.

#### automated security monitoring

The use of automated procedures to ensure that the security controls implemented within an Automated Information System are not circumvented.

#### Automated Traffic Information Service/ATIS

1. ATIS broadcast -- A continuous broadcast of ATIS messages will be provided using (RF) signals transmitted through the air (free space). Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive message broadcasts.

2. ATIS data -- Non-control information, other than weather, required by pilots operating within a tower-controlled airport area which is manually entered by a controller.
3. ATIS message -- Complete non-control message, including weather required by pilots operating within a tower-controlled airport area.

#### Automated Weather Observing System/AWOS

The system is composed of meteorological sensors, a computer processor with appropriate software, voice synthesizer, and a communication link. The basic sensors provide wind, temperature, dew point, pressure (altimeter setting), precipitation intensity, visibility and cloud height.

1. airport surface weather broadcast -- The continuous (computer synthesized voice) broadcast of a combination of AWOS and other weather messages using RF signals transmitted through the air (free space).
2. airport surface weather message -- An electronic or hard copy message that contains a combination of AWOS and other surface aviation weather information.
3. alphanumeric weather information -- Any non-graphic weather data (surface weather observations, forecasts, advisories, etc.).
4. AWOS data -- Information such as ceiling, visibility, wind direction and speed, temperature, dew point, barometric pressure, and precipitation occurrence and accumulation which is automatically sensed and gathered.
5. AWOS voice message -- A computer generated voice message containing AWOS data.

#### automatic altitude reporting

That function of a transponder which responds to Mode C interrogations by transmitting the aircraft's altitude in 100 foot increments.

#### Automatic Carrier Landing System/ACLS

U. S. Navy final approach equipment consisting of precision tracking radar coupled to a computer data link to provide continuous information to the aircraft, monitoring capability to the pilot, and a backup approach system.

### Automatic Dependent Surveillance/ADS

Surveillance of an aircraft based on position data obtained and reported automatically by the aircraft.

### Automatic Direction Finder/ADF

(1) An aircraft radio navigation system which senses and indicates the direction to a L/MF non-directional radio beacon/NDB ground transmitter. Direction is indicated to the pilot as a magnetic bearing or as a relative bearing to the longitudinal axis of the aircraft depending on the type of indicator installed in the aircraft. In certain applications, such as military, ADF operations may be based on airborne and ground transmitters in the VHF/UHF frequency spectrum. (2) The airborne receiving equipment which utilizes non-directional beacons. The ADF used with an NDB is a radio receiver that determines the bearing from the aircraft to the transmitting station. Use of the "H" facility requires a directional antenna for reception of the signal. A directional antenna is one that conducts radio signals more efficiently in one direction than in others. A single-wire vertical antenna ("sense" antenna) is non-directional in that it conducts received or transmitted signals with equal efficiency in all directions. A loop of wire, or two wires suitably connected, have important directional characteristics for transmission or reception. ADF Directional antennas normally are loops which sense direction by comparison of voltages. Such antennas cannot sense whether the station is behind or ahead, or to the left or right. This characteristic of loop reception is called ambiguity. By combining the properties of the loop antenna with those of a sense antenna, the direction of the incoming signal is resolved so that the ADF indicator continuously shows the relative bearing of the transmitting station. See bearing, Non-Directional Beacon, low/medium frequency.

### Automatic Overload Control/AOC

Transponder circuits that limit the reply rate to a preset level to control system performance.

### automatic program unit

A device used primarily to control teletypewriter circuit traffic. Control is accomplished through electronic transmission of groups of characters which actuate equipment locally and at remote stations. Low-speed units (APULS) are used for polling 100 wpm circuits and high speed units (APUHS) are used for polling certain high traffic interchange circuits. See Loop.

### automatic relay installation

A teletypewriter installation where automatic equipment is used to transfer messages from incoming to outgoing circuits.

### automatic send-receive set/ASR

As applied to a teletypewriter set, consists of a printer, keyboard, tape handling equipment, and line relay group (selective signaling) equipment. The ASR is a complete message center and is the standard telecommunication device for administrative, weather, AUTODIN, AMOS, CCC and ARTS application. Most often used in half-duplex circuits.

### automatic tape relay

A method of communicating whereby messages are received and transmitted in teletypewriter tape form without manual intervention.

### Automatic Terminal Information Service/ATIS

The continuous broadcast of recorded non-control information in selected high activity terminal areas. Its purpose is to improve controller effectiveness and to relieve frequency congestion by automating the repetitive transmission of essential but routine information; e. g., "Los Angeles information Alpha. One three zero Coordinated Universal Time. Weather, measured ceiling two thousand overcast, visibility three, haze, smoke, temperature seven one, dew point five seven, wind two five zero at five, altimeter two niner niner six, ILS Runway Two Five Left approach in use, Runway Two Five Right closed, advise you have Alpha."  
(Refer to AIM)

### Automatic Terminal Information Service (ICAO)

The provisions of current, routine information to arriving and departing aircraft by means of continuous and repetitive broadcasts throughout the day or a specified portion of the day.

### automatic track initiation

The programmed initiation of a track upon receipt of a discrete beacon radar datum matching a code assigned to an aircraft.

### automatic track life

A measure of the time that correct, automatic tracking of a radar data trail is maintained relative to the total control life of the flight, i.e., the amount of time under the center's control. See track life.

### automatic tracking

See tracking.

### automatic update

An update of time information in a flight plan carried out automatically by the computer as a result of its having detected an "out of association longitudinally" condition. See update.

### Automatic Voice Network/AUTOVON

A military voice communications switching system.

### automation documentation

Test programs, exercise/checkout data and other information used as part of system/equipment technical performance data.

### autorotation

A rotocraft flight condition in which the lifting rotor is driven entirely by action of the air while the rotor craft is in motion.

1. autorotative landing/touchdown autorotation Used by a pilot to indicate that he will be landing without applying power to the rotor.
2. low level autorotation -- Commences at an altitude well below the traffic pattern, usually below 100 feet AGL and is used primarily for tactical military training.
3. 180 degree autorotation -- Initiated from a downwind heading and is commenced well inside the normal traffic pattern. "Go around" may not be possible during the latter part of this maneuver.

### auxiliary rotor

A rotor that serves either to counteract the effect of the main rotor torque on a rotocraft or to maneuver the rotocraft about one or more of its three principal axes.

### auxiliary station line filter

A line filter for use at repeated points to separate frequencies of different carrier systems that are using the same line pair. For example, such a filter might be used at a high-frequency carrier system repeater to bypass low-frequency carrier systems and voice frequencies around the repeater.

### availability

(1) The probability that a material, component, equipment, system or process is in its intended functional condition at a given time and therefore is either in use or capable of being used under a stated environment. (2) A measure of the probability that an end item is in an operable state and capable of performing its required functions during any and all required operating times. Equipment availability (A) includes Mean-Preventive-Maintenance Time (MPMT) in some instances, and in others it only includes unscheduled maintenance. Both definitions are generally accepted provided they are used separately and in context. The two definitions being referred to are inherent availability (AIR) and operational availability (AO). See maintainability, mean up time, reliability.

1. availability achieved/A<sub>a</sub> -- The probability that a system is operating satisfactorily at any point in time when used under stated conditions, where the time considered includes operating and active repair time along with preventive maintenance downtime.
2. availability allocation -- The inherent availability values of the specification were developed to: establish quantitative system requirements, allocate or apportion to lower levels (i.e.. Sub-systems or projects); i) Identify functional services that include specific sub-systems as: critical, essential or routine; operationally, ii) Evaluate comparative sub-system complexities, iii) Utilized functional string diagrams and basic source of reliability block diagrams and iv) Evaluate each functional string backups, adjust allocations to use or minimize changes to sub-system/projects availabilities that are fielded or on contract.
3. inherent availability/AIR/A<sub>i</sub> -- (1) A measure of availability that includes only the effects of an item design and its application. and assumes an ideal operation and support environment (i.e.. no logistics travel time). (AIR is considered to be the design requirement.) (2) The probability that a system or



equipment when used under stated conditions, without consideration for any scheduled or preventive maintenance in an ideal support environment (that is, available tools, parts, manpower, manuals, etc.), shall operate satisfactorily at any given time, supply down time, and waiting or administrative down time. It may be expressed as  $AIR = MTBF / (MTBF + MTTR)$ . (3) The availability potential of a given design configuration under ideal support conditions i.e., no logistics waiting time. See below and mean time to repair.

4. operational availability/AO/A<sub>o</sub> -- (1) A measure of availability that includes the combined effect of item designs, application, operation, maintenance, and repair (including logistics travel time etc.). (2) The probability that a system or equipment when used under stated conditions and in actual supply environment shall operate satisfactorily at any time. It may be expressed as  $A = MTBM / (MTBM + MDT)$ ; where MTBM is the mean-time-between-maintenance and ready time during the same interval, and MDT is the mean-down-time, including supply down time, administrative maintenance down time, etc., during the same interval. When preventive maintenance down time is zero or not considered, MTBM becomes MTBF. Ready time is defined as the period of time that an item is available for operation, but is not required. (2) The probability that a system is operating satisfactorily at any point in time when used under stated conditions, where the time considered included operating, active repair time, preventive maintenance downtime and an additional term which is the time accumulated by those circumstances that combine to delay the active repair process.
5. mean down time/MDT -- The amount of mean time that it takes to do a repair of a failure on an item that is not redundant. This time includes any logistical (i.e., travel time) and the MTTR to return the item to an operational state.
6. mean switch-over time/MST -- The amount of mean time that an item can take to transfer from a non-operating to an operating side of redundant portions of the item.
7. mean-time-between-failure/MTBF -- A basic measure of reliability for repairable items: the mean number of life units during which all parts of the item perform within their specified limits, during a particular measurement interval under stated conditions.
8. mean-time-to-repair/MTTR -- A basic measure of maintainability: the sum of corrective maintenance times,

divided by the total number of failures within an item. Corrective maintenance is all actions performed as a result of a failure in an end item. Corrective maintenance can include any or all of the following steps: localization, isolation, disassembly, interchange, reassembly, alignment, and checkout.

9. reliability -- The probability or duration that a unit, element or function will perform, failure free, under specified operational stress and environmental conditions during a specified period of time. This includes hardware and software elements.
10. service/achieved availability -- A measure of availability obtained as a result of measured field operating data (i.e., for identifying projected availability requirements, the service/achieved availability can be considered synonymous with operational availability).
11. unavailability -- When a failure event, inoperable state or system degradation, has occurred in which any end item or part thereof does not, or would not, perform per specified operating requirements.

#### available seat miles/ASM

The aircraft miles flown in each flight stage multiplied by the number of seats available on that stage for revenue passenger use.

#### availability state

A set of mutually exclusive descriptors which determines (a) under whose control changes in a module's configuration assignment are made and (b) the configuration (operational or non-operational) to which the module currently is assigned. A module or unit may exist in any one of the following mutually exclusive states:

1. inactive -- A module which is logically, if not electrically, isolated from all other modules; it is not configured. Manual intervention is required to configure it to other modules.
2. operational -- A module whose configuration assignment is under the control of the operational executive program and whose current assignment is in the operational configuration.
3. redundant -- A module whose configuration assignment is under the control of the operational executive program,

but which is not required to perform some operational function. The module may be used in some non-operational task and may be preempted without manual intervention if the redundant module is required by the operational configuration.

4. test -- A module whose configuration assignment is not under the control of the operational executive program and which is available to perform some non-operational function. Manual intervention is required to make the module available to the operational configuration.

#### availability status

A classification scheme for monitoring the functional capacity of a sub-system and for indicating how quickly spare capacity can be utilized. The status categories of this scheme are:

1. available -- Modules in the redundant, test, or inactive states which could be assigned to the operational configuration through normal re-configuration procedures (manual, semi-automatic, and/or automatic).
2. operational -- Modules currently in the operational state.
3. unavailable -- Modules in the test or inactive states which require more than normal reconfiguration procedures to use them in the operational configuration. Such status arise because of: actual or suspected internal failure, module power off, or physical disconnection.

#### AVANA

A term used by ATC to advise an aircraft that the ALTRV is automatically canceled at a specified time (ALTRV APVL void for aircraft not airborne by (time)).

#### Aviation Weather Service/AWS

A service provided by the National Weather Service/NWS and FAA which collects and disseminates weather information for pilots, aircraft operators, and ATC. Available aviation weather reports and forecasts are displayed at each NWS office and FAA FSS. See En Route Flight Advisory Service, Transcribed Weather Broadcast, weather advisory, Pilots Automatic Telephone Weather Answering Service. (Refer to AIM)

### azimuth

A magnetic bearing extending from a navigational facility.  
Note: azimuth bearings are described as magnetic and are referred to as "azimuth" in radio telephone communications.

### azimuth angle/Z

The interior angle of the astronomical triangle at the zenith measured from the observer's meridian to the vertical circle through the body.

### azimuth change pulse

Least quantum value of azimuth converted from angular displacement in degrees to binary value in CD output (4096 ACP's = 360°).

### azimuth information

Information, used by a pilot making an approach, that indicates where the aircraft is horizontally relative to the approach runway centerline.

### azimuth reference pulse

True north (zero'th) azimuth change pulse.

### azimuth stabilization

Orientation of the picture on a radar scope so as to place true north at the top of the scope.

### B-line

An adapted line segment that may generate a fix posting when intersected by a direct route segment.

### babble

The aggregate crosstalk from a large number of disturbing channels.

### back lobe

The lobe of a radar signal that extends in the opposite direction from the main lobe. The back lobe is usually stronger than the side lobe.

### back-to-back connections

Normally refers to a direct connection from the voice-frequency drop of one carrier channel to the voice-frequency drop of another.

### backbone network

That portion of a telephone communication system which provides access to, and distribution of, local circuits to a number of geographical locations.

### backing

Shifting of the wind in a counter-clockwise direction with respect to either space or time; opposite of veering. Commonly used by meteorologists to refer to a cyclonic shift (counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere).

### backscatter

(1) Pertaining to radar, the energy reflected or scattered by a target. (2) An echo.

### backup

A copy of data or a computer program which is maintained (external to the computer system) in the event the original is damaged or destroyed.

1. backup device -- The physical device adapted as backup to another physical device; manually or automatically reconfigured. See reconfiguration.

2. backup procedures -- The provisions made for the recovery of data files and program libraries, and for the restart or replacement of automated equipment after the occurrence of a system failure or of a disaster.

bail

Usually an arched unit pivoted at two points located on the same axis; used to deliver motion to some other unit.

balanced line

A line or circuit that uses two identical conductors, each having the same electro-magnetic characteristics with respect to other conductors and ground. A balanced line is preferred in circumstances where minimum noise and crosstalk are desired.

balancing network

With respect to communications, an arrangement of impedances connected to one branch of a hybrid to match the impedance of a line connected to the opposite branch.

balloon

A lighter-than-air aircraft that is not engine driven.

band

A range of wavelengths or sound frequencies within stated limits.

1. band-pass filter -- A filter which allows free passage to frequencies within a specific band, and that has high attenuation to all frequencies outside that band.
2. band-stop filter -- A filter having characteristics opposite those of the band-pass filter. The band-stop filter attenuates frequencies within a defined band, and offers low attenuation to those outside this band.

bandwidth

(1) The frequency band of channelized communications that is applied to a radio system and/or the frequency band which the system is capable of transmitting. (2) The band of frequencies within which the loss is no more than 10 dB greater than the loss at 1000 Hz.

banner cloud (cloud banner)

A cloud, banner like in shape, streaming off from a mountain peak.

barograph

A continuous recording barometer.

barometer

An instrument for measuring the pressure of the atmosphere. The two principal types are mercurial and aneroid.

barometric altimeter

See pressure altimeter.

barometric pressure

See atmospheric pressure.

barometric tendency

The change of barometric pressure within a specified period of time. In aviation weather observations, routinely determined periodically, usually for a three hour period.

base addressing

The use of base registers to refer to main storage; in the IBM 9020 computer the base register, or base address, is a twenty-four bit number (contained in a general register) which, when added to the displacement and index, forms the address.

1. base register addressing -- The use of base registers to refer to main storage; the base register or base address is a number (contained in a general register) which, when added to the displacement and index (if used), forms the address.

base leg

See traffic pattern.

baseband

The frequency band of channelized communications that is applied to a radio system and/or the frequency band which the system is capable of transmitting.

### basegroup

A term designating a number of carrier channels in a particular frequency range that forms a basic unit for further modulation to a final frequency band. In a Lenkurt 45-class carrier system, a basegroup is 12 voice channels occupying a frequency range from 40 to 88 kHz.

### baseline

(1) The standard configuration on which a system is based. It assures commonality and compatibility of like systems from facility to facility. (2) The shorter arc of the great circle joining the master and slave Loran stations.

### baseline configuration

The identification of the National Airspace System (NAS) and the program elements by technical description, detailed specifications, applicable engineering drawings, and other documentation which governs those aspects that are independent of site locations.

### basic data

Data transmitted by the ground equipment which is associated directly with the operation of the landing guidance system, and advisory data on the MLS ground equipment performance level.

### basic flight maneuvers/BFM

The maneuvers in which a combat pilot must be skilled in order to effectively employ his weapons system in air combat or defensive combat maneuvering.

### basic input/output system/BIOS

A program in a computers ROM which provides control procedures for all system hardware and peripherals, including the keyboard, video display, disk drives and printer.

### Basic Sector plan

Basic Sector plan is Sector Plan 00, the plan in which each FPA is assigned to the sector identified by the first two digits of the FPA number.



### batch processing

The computer processing environment characterized by the submission of program(s) and data of jobs along with computer control information describing what the system is designed to perform. The computer stores this information in files in a queue for processing. After a delay for the processing of other jobs in the queue, the processing of the job is completed, and the output of the job is distributed according to the user's instructions. Batch processing is typified by a very low degree of user interaction with the job.

### baud

(1) A unit of modulation rate. This unit of signaling speed is an equal length code, one baud corresponds to a rate of one signal element per second. (2) A data communications speed equal to the number of code elements transmitted per second per character. The unit of signalling speed equal to twice the number of Morse code dots continuously sent per second. For TTY, the speed in bauds is the number of code elements per second. Thus,  $\text{bits/character} \times \text{characters/seconds} = \text{bauds}$  e.g.,  $7.42 \text{ bits/char.} \times 10.1 \text{ char./sec.} = 75 \text{ baud.}$  S

1. baud rate -- The rate at which information is transmitted between a computer and an external device such as a printer modem or other serial device.
2. baudot code -- A 5-level teletypewriter code consisting of a start impulse and five character impulses, all of equal length, and a stop impulse whose length is 1.42 times that of each other impulse. Also known as the 7.42 unit code or the 5-level code. Used in Model 28 teletype equipments. See bit, five-level.

### bay

One of the major storage sub-divisions in a stockroom, separately identified from other bays and outlined by markings on columns, posts or floor.

### beacon

(1) A ground navigational light, radio or radar transmitter used to provide aircraft in flight with a signal to serve as a reference for the determination of accurate bearings or positions. (2) Secondary radar.

1. beacon antenna -- An antenna system that radiates radio or radar energy in such a way as to act as a beacon for navigation purposes. See radio beacon, radar beacon.
2. beacon altitude -- A mode C derived altitude.
3. beacon interrogation -- A signal, transmitted by a ground based beacon radar sensor, that causes transponders to transmit a reply.
4. beacon radar surveillance data -- Information, received by a beacon radar receiver, consisting of transponder replies that are used to determine the location of transponder equipped aircraft. This information could also include beacon code and aircraft altitude.
5. beacon replies -- Signals generated by a beacon transponder in response to a beacon interrogation signal. This signal consists of a pulse train transmitted from the aircraft transponder that is received by the beacon radar sensor on the ground.
6. beacon video -- The analog output from a beacon radar receiver containing the pulse coded responses from replying transponders.

See non-directional beacon, marker beacon, airport rotating beacon, aeronautical beacon, airway beacon.

#### beam

Focused electro-magnetic radiation, i.e., radar beam.

1. beam sharpening -- An effective reduction in the width of the main beam of an interrogator due to the use of side lobe suppression.
2. beam splitting -- In the Common Digitizer, a technique for computing the center-of-target azimuth utilizing the normal detector and special detector data.

#### beam resolution

See resolution.

#### beam width

The effective width in azimuth of radiation from an antenna.

1. beam width error -- An azimuth distortion of a radar display caused by the width of the radar beam.

## bearing

(1) The horizontal angle at a given point, measured clockwise from a specific reference datum (true north, magnetic north, or some other reference point through 360°) to a second point. (2) The direction of an object relative to a line between the airplane and north (magnetic or true).

1. magnetic bearing/MB -- The horizontal angle at a given point, measured from magnetic north, clockwise, to the great circle through an object or body and the given point.
2. relative bearing/RB -- The horizontal angle at the aircraft measured clockwise from the true heading of the aircraft to the great circle containing the aircraft and the object or body.
3. true bearing/TB -- The horizontal angle at a given point measured from true north clockwise to the great circle passing through the point and the object or body.

## Beaufort scale

A scale of wind speed.

## bellamy drift

The net drift angle of an aircraft calculated between any two pressure soundings.

## below minimums

Weather conditions below the minimums prescribed by regulation for the particular action involved; e. g., landing minimums, takeoff minimums.

## bellcrank

(1) A bent lever, having its fulcrum at the bend and used to change direction of motion. (2) A lever having arms, which form an angle, and which has its fulcrum at the apex of the angle. It is normally used to change the direction of linear motion.

## bent

A term indicating equipment is inoperative or unserviceable.

### "best fit" return

The primary/beacon radar datum within the search area that is closest to the predicted track position; the datum with the smallest deviation.

### beta particle

A charged particle emitted from the nucleus of an atom. It has the same mass and negative electric charge as an electron.

### between the lines entry

Access, obtained through the use of active wire-tapping by an unauthorized user, to a momentarily inactive terminal of a legitimate user assigned to a communication channel.

### bias

The effect of distortion whereby one type of pulse becomes longer while the opposite type of pulse is shortened.

1. bias distortion -- A form of teletypewriter distortion which displaces the space-to-mark transition.

### biennially

A scheduling term, meaning every two calendar years (22 to 26 months).

### bimonthly

A scheduling term, meaning every two calendar months, and at approximately sixty-day intervals (50 to 70 days).

### binary/binary system

A characteristic, property, or condition in which there are but two possible alternatives; e.g., the binary number system using 2 as its base and only the digits zero (0) and one (1).

1. binary coded decimal/BCD -- A method of describing a decimal notation in which the individual decimal digits are represented by a pattern of 1 and 0's; for example, in the 8-4-2-1 code decimal notation, the number 12 is represented as 0001 0010 for 1 and 2 respectively, whereas in pure or straight binary notation it is represented as 1100.

## bit

(1) An abbreviation of "binary digit," it is the smallest unit of information used by a computer, expressed as either a 0 or a 1. (2) A single character in a binary number. (3) A single pulse in a group of pulses. (4) A unit of information capacity of a storage device. The capacity in bits is the logarithm to the base two of the number of possible states of the device. One impulse, or the time interval normally occupied by one impulse. Five bits, plus a start bit and a stop bit, compose one character or function in baudot code.

1. bit, parity -- A check bit that indicates whether the total number of binary "1" digits in a character or word (excluding the parity bit) is odd or even. If a "1" parity bit indicates an odd number of "1" digits, then a "0" bit indicates an even number of them. If the total number of "1" bits, including the parity bit, is always even, the system is called an even parity system. In an odd parity system, the total number of "1" bits, including the parity bit is always odd.
2. bit, stream -- Referring to a binary signal without regard to grouping by characters.

## bi-weekly

A scheduling term, meaning once every two calendar weeks, and at approximately fourteen day intervals (12 to 16 days).

## black blizzard

Popular term for a dust storm.

## blanking

The substitution for the picture signal, during prescribed intervals, of a signal whose instantaneous amplitude is such as to make the return trace invisible.

1. blanking level -- The level of the signal during the blanking interval. It coincides with the level of the base of the synchronizing pulse.

## blast fence

A barrier that is used to divert or dissipate jet or propeller blast.

## blind

Concealed or hidden.

1. blind speed -- The rate of departure or closing of a target relative to the radar antenna at which cancellation of the primary radar target by Moving Target Indicator/MTI circuits in the radar equipment causes a reduction or complete loss of signal.
2. blind video (ICAO) -- A radial velocity of a moving target such that the target is not seen on primary radars fitted with certain forms of fixed echo suppression.
3. blind spot/blind zone -- (1) An area from which radio transmissions and/or radar echoes cannot be received. (2) The term used to describe portions of the airport not visible from the control tower.

## blinding

The automatic suppression of unwanted functions or selective calling signals (e.g. address codes of other than the local station) from appearances in printer copy or punched tape.

## blip

(1) The display of a received pulse on a CRT (i.e. a spot of light representing a target). (2) An upward deflection of the trace representing a received signal. Also known as a pip..

1. blip/scan ratio -- Ratio of radar scans during which a target is detected to total number of radar scans during which a target is within the radar coverage. See radar input B/S.

## blizzard

A severe weather condition characterized by low temperatures and strong winds bearing a great amount of snow, either falling or picked up from the ground.

## blocked altitude

A range of altitudes encompassed by the lower and upper limits of the filed altitude (e.g., 280B310).

blockstacking

Stacking of similar containers in a block or in rows, with each container snugly positioned against the adjacent ones.

blowing dust

A type of lithometeor composed of dust particles picked up locally from the surface and blown about in clouds or sheets.

blowing sand

A type of lithometeor composed of sand picked up locally from the surface and blown about in clouds or sheets.

blowing snow

A type of hydrometeor composed of snow picked up from the surface by the wind and carried to a height of six feet or more.

blowing spray

A type of hydrometeor composed of water particles picked up by the wind from the surface of a large body of water.

blunder

Occurrence where, as a result of equipment malfunction or pilot error, an aircraft has exceeded safe tolerance from cleared route.

board

A printed circuit assembly which is mounted onto the chassis of a computer or other electronic device. Printed circuit cards may be plugged into a board. See card.

boot

The process of loading or transferring an operating system from a storage medium into a computers memory. See auto-boot.

boresight

The center of the main beam of a radar signal.

### boundary

A limiting or dividing demarkation, i.e., airspace boundary.

1. boundary crossing point -- The point at a flight's altitude where a boundary crossing between two centers occurs.
2. boundary crossing time -- The time at which a flight is calculated to intersect the boundary crossing point.

### boundary lights

See airport lighting.

### bounds checking

Testing of computer program results for access to storage outside of its authorized limits. Synonymous with memory bounds checking.

### bounds register

A hardware register which holds an address specifying a storage boundary.

### bracket decoding

A type of decoding that provides a single-pulse display whenever a pair of bracket pulses are received regardless of the information pulses that lie between the bracket pulses. When this method of decoding is used, all aircraft using Mark X SIF and ATCRBS transponders in the coverage area will be displaying. See bracket pulses, Mark X SIF, Transponder.

### bracket pulse pairs

Two pulses, uniquely spaced in time, between which are contained the beacon code pulses transmitted from an airborne beacon transponder. The first and last pulses of a transponder reply group that are present in all replies. When transmitted without the normal information pulses, the bracket pulses are designated Code 0-0-0-0. See bracket decoding.

### brake horsepower

The power delivered at the propeller shaft (main drive or main output) of an aircraft engine.



### braking action advisories

When tower controllers have received runway braking action reports which include the term "poor" or "nil" or whenever weather conditions are conducive to deteriorating or rapidly changing runway braking conditions, the tower will include on the ATIS broadcast the statement "BRAKING ACTION ADVISORIES ARE IN EFFECT." During the time braking action advisories are in effect, ATC will issue the latest braking action report for the runway in use to each arriving and departing aircraft. Pilots should be prepared for deteriorating braking conditions and should request current runway condition information if not volunteered by controllers. Pilots should also be prepared to provide a descriptive runway condition report to controllers after landing.

### break

The process of interrupting or temporarily halting the execution of a computer program.

### brevity lists

A code system that is used to reduce the length of time required to transmit information by the use of a few characters to represent long, stereotyped sentences.

### bridging connections.

A connection across (in shunt with) a circuit. It is generally a connection of a high impedance device across a circuit so that the circuit is not loaded by the device.

### bright band

In radar meteorology, a narrow, intense echo on the range height indicator scope resulting from water covered ice particles of high reflectivity at the melting level.

### brightness

The attribute of visual perception in accordance with which an area appears to emit more or less light.

1. brightness control -- The manual bias control of a CRT. The brightness control affects both the average brightness and the contrast of the picture.

brief

When one controller gives concise preparatory information concerning all sector activities to another controller.

BRITE

A vertical display mounted in an ATCT cab, which is used by air traffic personnel to assist them in the control of aircraft. The display operates in an ambient light environment.

broadband

The use of a wide frequency operation for the band pass of electronic communication equipment; usually in the megahertz range (as opposed to narrowband).

broadcast

Transmission of information for which an acknowledgement is not expected.

broadcast (ICAO)

A transmission of information relating to air navigation that is not addressed to a specific station or stations.

browsing

Searching through storage to locate or acquire information, without necessarily knowing of the existence or the format of the information being sought.

buffer

(1) An internal portion of a data processing system serving as intermediary storage between two storage or data handling systems with different access times or formats; usually to connect an input or output device with the main or internal high speed storage. (2) An isolating component designed to eliminate the reaction of a driven circuit on the circuits driving it; e.g., a buffer amplifier.

bug

The cause of a computer malfunction. The term "bug" refers to hardware faults as well as to errors in software and firmware programs which prevent the proper execution of a computer program.

### bulk processing

A function which provides the capability to start or to end automatic input of flight data from the bulk store file of daily flight data.

1. bulk store file -- A storage medium, other than core, on which regularly scheduled flight plans are retained, in order of proposed departure time.
2. bulk store flight plans -- Flight plans for flights which are repetitive in nature, demonstrate a reasonable amount of stability in the flight's planned route, are scheduled to become operational at least one day each week and are stored in bulk for use by cardatype (off-line) or computer (on-line or off-line) equipped ARTCCs.

### bulletin

A name given to a single publication covering description, operation, parts or maintenance.

### burn in

A common form of a reliability screen where items (parts, assemblies or products) are operated prior to their ultimate application to stabilize their characteristics and to identify early failures.

### burner

A term indicating that an aircraft is flying at maximum power (USAF).

### burst

A code word signifying chaff drops at intervals long enough to appear on radar displays as individual target returns.

### bushing

A metallic sleeve or cylinder inserted in a larger component of a machine. The bushing receives the wear caused by the moving part it supports and it is replaceable.

### busy

A condition which exists when the position circuit(s) dialed by the calling party is in use.

1. busy line -- The condition of a signal line that is carrying intelligent pulses.

Buys Ballot's law

If an observer in the Northern Hemisphere stands with his back to the wind, lower pressure is to his left.

bypass filter

A filter that provides a low attenuation path for a particular frequency band around a piece of equipment. For example, a carrier frequency filter is used to bypass a physical telephone repeater.

byte

In computer usage, a generic term to indicate a measurable portion of consecutive binary digits (e.g., an 8-bit or 6-bit byte). or a group of binary digits usually operated upon as a unit. Address, instruction and data words are made up of bytes. In teletype usage, a group of characters/symbols, such as a code group or station address, which is recognized as a unit message or designation.

### C-data

The comment (or "remarks") portion of a flight plan.

### C-type conditioning

Conditioning for additional control of attenuation distortion and envelope delay distortion. Some kinds of C-type conditioning may be applied to a channel but may be combined with D-type conditioning.

### calculated

To ascertain beforehand using arithmetical means.

1. calculated delay interval/CDI -- The period of time that a flight is calculated to hold or delay at a fix.
2. calculated time of arrival/CTA -- A calculated time of arrival for a flight over a fix based on filed true airspeed, stored winds, and the present location of the flight.
3. calculated landing time/CLT -- A term that may be used in place of tentative or actual calculated landing time, whichever applies.

### calculation

The process of mathematical computation.

1. calculation, fixed point -- A calculation made with fixed point arithmetic.
2. calculation, floating point -- A calculation made with floating point arithmetic.

### call

Voice tele-communications.

1. call back -- A procedure established for positively identifying a terminal dialing into a computer system by disconnecting the calling terminal and reestablishing the connection by the computer system's dialing the telephone number of the calling terminal.
2. call directing code/CDC -- An identifying call, usually three letters, which is transmitted to an outlying teletypewriter receiver and automatically turns its printer on (selective calling).

3. call forwarding -- In an ARTCC, it is the transferring of incoming calls to another position in the center.

call sign

The unique identification of an aircraft or air traffic facility. For aircraft it is the identification as filed in the flight plan and for a facility it is the facility name followed by it's type or function (i.e. Washington Center, Boston Departure).

call up

(1) Initial voice contact between a facility and an aircraft, using the identification of the unit being called and the unit initiating the call. (Refer to AIM) (2) The process of entering a command or series of commands which start a particular computer program.

calm

The absence of wind or of apparent motion of the air.

cam

A surface on a shaft or wheel, which is not a true circle; there being one or more areas of the surface which are either raised or lowered from the average circumference line.

camera tube

An electron-beam tube in which an electron current or charge-density image is formed from an optical image and scanned in a predetermined sequence to provide an electrical signal.

Canadian Airspace Reservation Unit/CARU

A function established by the Ministry of Transport of Canada, responsible for the processing of altitude reservation requests in Canadian airspace.

cap cloud

A standing or stationary cloud crowning a mountain summit.

capacitor

A device for accumulating and holding a charge of electricity which consists of conducting surfaces separated by a dielectric.

1. small capacitor -- A capacitor which contains less than 1.36 kg (3 lbs) of dielectric fluid. The following assumptions may be used if the actual weight of the dielectric fluid is unknown. A capacitor whose total volume is less than 1,639 cubic centimeters (100 cubic inches) may be considered to contain less than 1.36 kg of dielectric fluid and a capacitor whose total volume is more than 3,278 cubic centimeters (200 cubic inches) must be considered to contain more than 1.36 kg of dielectric fluid. A capacitor whose volume is between 1,639 and 3,278 cubic centimeters may be considered to contain less than 1.36 kg of dielectric fluid if the total weight of the capacitor is less than 4.08 kg (9 lbs).
2. large high voltage capacitor -- A capacitor which contains 1.36 kg or more of dielectric fluid and which operates at 2,000 volts (a.c. or d.c.) or above.
3. large low voltage capacitor -- A capacitor which contains 1.36 kg or more of dielectric fluid and which operates below 2,000 volts (a.c. or d.c.).

#### cancel

To remove data from the computer or rescind information passed to another (comparable to "delete").

#### capacity

The maximum number of digits that can be handled or processed by a computer unit; also, the upper and lower limits of the numbers which can be handled by the computer.

#### capitalization

The selective recording, in an appropriate general ledger account, of the monetary value of in-use personal property items that are above a defined dollar value.

#### card

(1) A printed circuit assembly which plugs into a printed circuit board.

#### card input

A method of introducing information into a computer by means of punch cards.

### cardinal altitudes/cardinal flight levels

"Odd" or "even" thousand-foot altitudes or flight levels.  
Examples: 5000, 6000, 7000, FL250, FL260, FL270.

### carriage return/CR

A function performed by a teletypewriter, when initiated by the carriage return character which causes the machine to return the printing mechanism to the left hand margin. Also, used as part of certain control codes.

### carrier

A form of communication using waves that can be modulated by changing their amplitude, frequency, or phase so that they "carry" intelligence. Carrier communication is used as a means of transmitting one or more messages over a single open-wire pair, cable pair or radio circuit.

1. carrier equipment -- A radio frequency communication subsystem for multichannel service. Carrier subsystems are invariably used in long lines (telephone) service. Either coaxial cable, spiral four or other types of transmission media, including microwave link, are used with carrier equipment.
2. carrier frequency interconnection -- In the formation of carrier networks, groups of channels are transferred between terminals of wire-line, cable or radio system at carrier frequencies. This transfer is known as carrier frequency interconnection.
3. carrier leak -- The electrical balance of suppressed carrier modulators is never perfect. The carrier frequency power remaining in the output of the modulator as a result of this imbalance is called carrier leak.
4. carrier line -- Any physical transmission circuit used for multiple channel communication by utilizing carrier transmission.
5. carrier loading -- The intersection of additional lump inductance in a cable section of a transmission line used for carrier transmission up to about 35 kHz. Loading minimizes impedance mismatch between cable and open wire line and reduces the cable attenuation.
6. carrier repeater -- An assembly of amplifiers and other equipment designed to raise attenuated carrier signal levels to such a value that they may transverse a



succeeding line section at an amplitude that preserves an adequate signal-to-noise ratio and maintains minimum crosstalk.

7. carrier signaling -- The method by which necessary supervision (busy signals, ringing, or dial signaling) is provided by the transmission of a carrier frequency tone. The frequency for carrier signaling may lie inside the range assigned to the speech channel or may lie between channels. Or a group of such tones for a number of channels may be put in a voice band or part of a band assigned for that purpose.
8. carrier system -- A radio frequency/RF communication method for multi-channel service. The carrier terminals have transmitter and receiver modems in which multiplexing takes place by frequency, phase, or time division processes. Carrier terminals operate over both short and long distances. The longer routes have repeaters along the route to amplify the carrier rf signals as they undergo attenuation. Carrier and repeaters are interconnected via coaxial cable, microwave links, or lower frequency radio links, or a combination of these.
9. carrier transfer filters/sets -- A group of filters arranged to provide carrier frequency interconnection between two transmission circuits.
10. carrier wave -- A wave that can be modulated by changing its amplitude, frequency or phase so that it can "carry" intelligence.

#### cartridge

A single core container enclosing roll microfilm designed to be inserted into readers, reader/printers, retrieval devices and cameras.

#### cassette

A double core container enclosing roll microfilm designed to be inserted into readers, reader/printers, retrieval devices and cameras.

#### cat track

Aircraft movement information service provided by an ARTCC on all IFR flight plan aircraft classified as SAC Y, NORAD special interest flights and those flights specified in 4-70 via voice reporting over interphone circuits in lieu of the ROCC teletypewriter network.

## categories

Radar controller input actions grouped under fairly broad headings, such as: tracking, radar handoff, etc.

1. category/function panel -- A control panel which enables the controller to indicate to the computer, by push button selection, the particular action requested in conjunction with an alpha-numeric message entry.

## categories of testing

1. category A: element/sub-system integration -- Element/sub-system integration will integrate the equipment part of the system to ensure that the equipment system functions as an entity and is capable of the level of operation required for ATC operations. An intermediate objective is to bring the equipment system to a state of readiness for use in Program Shakedown and System Shakedown.
2. category B: program shakedown -- Program shakedown will ensure that the computer programs meet the intent of the Computer Program Functional Specifications, and will integrate the programs with the equipment.
3. category C: system shakedown -- System shakedown will integrate the personnel with the equipment and computer programs. It will establish confidence in system operation, leading to acceptance of the system for Operations Changeover.
4. category D: operations changeover -- Operations changeover will convert the operations of an existing facility to one with an advanced design.

See completion criteria, operational shakedown

## category

(1) With respect to certification, ratings, privileges and limitations of airman, means a broad classification of aircraft. Examples include: airplane; rotorcraft; glider; and lighter-than-air. (2) With respect to the certification of aircraft, means a grouping of aircraft based upon intended use or operating limitations. Examples include: transport; normal; utility; acrobatic; limited; restricted; and provisional.

### category, landing

Category	I	II*	IIIA	IIIB	IIIC
Decision Height, feet	200	100	0**	0**	0**
Visi-bility, feet	2400	1200	700	150	0

(Runway Visual Range)

\* Each air carrier is first authorized to a DH of 150' and an RVR of 1600' to gain experience.

\*\* The decision height (DH), strictly speaking, should be listed as "not applicable" rather than "0".

The above categories may have to be redefined in length of V/STOL operating characteristics. See Decision Height.

### Cathode-Ray Tube/CRT

The television-like screen used as a display, computer terminal or video monitor.

### cathodic protection

Through the medium of sacrificial anodes, the protection of an underground storage tank from rapid metallic deterioration by directing the electrical deterioration to more susceptible metals intentionally positioned and engineered to protect the buried tank.

### caution area

Airspace within which military activities are conducted that are not hazardous but are of interest to nonparticipating pilots.

### ceiling

(1) The height above the earth's surface of the base of the lowest layer of clouds or obscuration phenomena that hides more than half of the sky ( reported as "broken", "overcast", or "obscuration" and not classified as "thin" or "partial"). (2) The vertical visibility into an obscuration. See summation principle.

1. ceiling (ICAO) -- The height above the ground or water of the base of the lowest layer of clouds below 6,000 meters (20,000 feet) covering more than half of the sky.

#### ceiling balloon

A small balloon used to determine the height of a cloud base or the extent of vertical visibility.

#### ceiling light

An instrument which projects a vertical light beam onto the base of a cloud or into surface based obscuring phenomena; used at night in conjunction with a clinometer to determine the height of the cloud base or as an aid in estimating the vertical visibility.

#### ceilometer

A cloud height measuring system. It projects light on the cloud, detects the reflection by a photoelectric cell, and determines height by triangulation.

#### celestial altitude

The angular distance of a celestial body above the celestial horizon, measured along the vertical circle.

1. computed altitude/Hc -- A mathematical computation of the correct celestial altitude of a body at a specific geographical position, for a given date and time.
2. observed altitude/Ho -- The sextant altitude corrected for sextant and observation errors.
3. pre-computed altitude/Hp -- Computed celestial altitude corrected for all known observational errors and adjusted to the time of the observed altitude.
4. sextant altitude/Hs -- A celestial altitude measured with a sextant (i.e. the angle measured in a vertical plane between an artificial or sea horizon and a celestial body).

#### celestial coordinates

1. equinoctial system (celestial 1) -- Involves the use of sidereal hour angle and declination to locate a point on the celestial sphere with reference to the first point of Aries and the equinoctial.

2. horizon system (celestial 2) -- Involves the use of azimuth and altitude to locate a point on the celestial sphere for an instant of time from a specific geographical position on the earth.
3. Greenwich system (celestial 3) -- Involves the use of Greenwich hour angle and declination to locate a point on the celestial sphere with reference to the Greenwich meridian and the equinoctial for a given instant of time.

#### celestial equator

The great circle formed by the intersection of the plane of the earth's equator with the celestial sphere. Also known as equinoctial.

#### celestial meridian

(1) A great circle on the celestial sphere formed by the intersection of the celestial sphere and any plane passing through the North and South poles. (2) Any great circle on the celestial sphere which passes through the celestial poles.

#### celestial navigation

The determination of geographical position by reference to celestial bodies. Normally used in aviation as a secondary means of position determination.

#### celestial observation errors (sextant)

Those positional errors associated with celestial navigation.

1. acceleration error -- An error caused by the deflection of the liquid in the bubble chamber due to any change in speed or direction of the aircraft.
2. index error -- An error caused by the misalignment of the sighting mechanism of a sextant.
3. parallax error -- The difference between a body's altitude above an artificial or visible horizon and above the celestial horizon. The error is present because of the fact that the body is not at an infinite distance.
4. personal error -- Errors in celestial observations caused by sighting limitations of the observer, or

visual interpretation which he/she uses in collimating the body during observations.

5. refraction error -- An error caused by the bending of light rays in passing through the various layers of the atmosphere and/or astrodome of the aircraft.
6. rhumb line correction -- The correction applied for the bubble acceleration error caused by the rhumb line path of the aircraft.
7. wander error -- The bubble acceleration error caused by a change of track during the celestial shooting period.

#### celestial poles

The points of intersection of the extension of the earth's axis with the celestial sphere.

#### celestial sphere

An imaginary sphere of infinite radius whose center coincides with the center of the earth, on which all celestial bodies except the earth are imagined to be projected.

#### cell

Computer memory section wherein radar return or transponder response information is stored and periodically updated - usually after each sweep or interrogation. Sometimes called bin.

#### Celsius temperature scale/Centigrade temperature scale/C

A temperature scale with zero degrees as the melting point of pure ice and 100 degrees as the boiling point of pure water at standard sea level atmospheric pressure.

#### center

An Air Route Traffic Control Center (ARTCC).

1. center area/center airspace -- That geographical area for which an ARTCC has air traffic control responsibility and which is defined in adaptation. The air space within a center area is sub-divided into fix posting areas that may be controlled by sectors within the center or delegated to approach control facilities. Center air space may overlies or underlie the adapted air space of an adjacent center or an approach control

facility. See Air Route Traffic Control Center.  
(Refer to AIM)

center B

A low-speed (100 wpm) teletypewriter system, connecting all ARTCC's within the United States. Consists of two circuits, Eastern and Western, which are interconnected via an Automatic Low Speed Switching Unit located at Kansas City. Used primarily for handling emergency messages. See service B.

Center Radar Approach Control/CERAP

A combined air route traffic control center and terminal radar approach control facility.

center weather advisory/CWA

An unscheduled weather advisory issued by Center Weather Service Unit meteorologists for ATC use to alert pilots of existing or anticipated adverse weather conditions within the next 2 hours. A CWA may modify or redefine a SIGMET. See SIGMET, Convective SIGMET, AIRMET. (Refer to AIM)

centicycle/CEC

A cycle refers to the wavelength of the transmitted signal, which is approximately 16 nautical miles at 10.2kHz. A CEC is therefore approximately 0.16NM.

centilane/CEL

A lane is defined as the distance between loci of equal hyperbolic phase difference. On the baseline between two stations a 10.2kHz lane is approximately 8NM, hence, a CEL is approximately 0.08NM.

Central Altitude Reservation Facility/CARF

An Air Traffic Service facility established to conduct the volume of coordination, planning and approval of special user requirements under the altitude reservation concept.

central computer complex

The location in a single controlled room or area of one or more computers and their associated peripheral and storage units, central processing units and communications equipment and other related supporting resources essential to the operation of the system. Synonymous with central computer room, computer equipment room or central computer facility.

### Central Computing Complex/CCC

The IBM 9020 computer which consists of the Modified IBM System 360/50 equipment elements and peripheral modules. The 9020A/9020D which have been replaced by the IBM 3083 computer, were used for processing flight data and radar data at ARTCCs.

### Central Flow Control/CFC

That function which manages the flow of air traffic.

1. central flow data -- Flight data, traffic flow data, traffic situation reports, traffic capacity reports, airport utilization information, and altitude utilization information.
2. central flow data request -- A request for central flow data.
3. central flow processing parameter -- Entries, made by ATCCC personnel, containing specific information for running simulations. These parameters could include input defining the size and location for a particular traffic scenario, the number and types of aircraft, routes to be used, weather conditions. etc.
4. central flow processing request -- A request for central flow processing results.
5. central flow processing results -- Strategy simulation and analysis, system performance and trends analysis, traffic flow status and projections.

### Central Flow Control Facility/CFCF

Located in the ATCCC, the role of the CFCF is to continuously predict, monitor and maintain command and control of the day to day IAS en route and terminal facility demand, capacity and delays. The CFCF Adjust the aircraft flow into and out of high density airports and along high-density routes on a national basis, accepts reservations and maintain a dynamic list of all IFR aircraft with reservations that operate in these areas.

1. CFCF delay factor -- The amount of delay calculated to be assigned prior to departure and, when appropriate, the airborne holding delay required in the arrival center's area. Shown as a "P" in box 28 of the en route flight progress strip; i.e., P000 or P008.



2. Central Flow Control Computer/CFCC -- The principal hardware and software element for the CFCF. It manages the CFCF data base, provides data base updates and provides the simulations of future demands at pacing airports.

#### Central Processing Unit/CPU

The circuitry that processes information, performs arithmetic functions and controls the operation of a computer system.

#### Central Weather Processor/CWP

A near real time system which disseminates weather information to ATC and FSS facilities. The system also supports Center Weather Service Unit meteorologist's in analyzing weather.

1. CWP weather products -- Includes weather analyses, selected/edited alphanumeric weather, graphic weather portrayals and other aeronautical and meteorological data.
2. CWP requests -- A request for CWP weather products.

#### centrifugal

(1) Acting away from the center. (2) Usually used to describe a force created by the rotation of a body.

#### certification

The technical evaluation, made as part of and in support of the accreditation process, that establishes the extent to which a particular computer system or network design and implementation meet a pre-specified set of security requirements.

#### certification (system/subsystem/equipment)

(1) The technical verification that a system, subsystem or equipment is providing the required or advertised services to a user at any given time subsequent to commissioning followed by the insertion of the prescribed written entry in the official facility maintenance log. It includes independent determination as to when a system, subsystem or equipment should be continued in, restored to or removed from service.

1. certification parameter -- Selected critical indicators of the quality of the required or advertised services

being provided to the users of a system, subsystem or equipment.

2. certification, personnel -- Confirmation that an employee possesses the necessary minimum knowledge and skills to determine operational status of a particular system/subsystem/equipment.
3. interim certification -- Certification authority granted to cover new systems/subsystems/equipment, pending establishment of a mandatory certification date, or conversion to regular certification.

#### Centronics-type interface

A parallel connector which has been accepted as a standard printer interface through common usage.

#### chaff

(1) Thin, narrow metallic reflectors of various lengths and frequency responses, used to reflect radar energy. These reflectors when dropped from aircraft and allowed to drift downward result in large targets on the radar display. (2) Applied loosely to (radar) echos resulting from chaff

#### change of state

In meteorology, the transformation of water from one form, i.e., solid (ice), liquid, or gaseous (water vapor), to any other form. There are six possible transformations designated by five terms:

1. condensation -- The change of water from vapor to liquid.
2. evaporation -- The change of liquid water to a vapor.
3. freezing -- The change of liquid water to ice.
4. melting -- The change of ice to liquid water.
5. sublimation -- The change of ice to water vapor or water vapor to ice. See latent heat.

#### changeover points

These points are established on VOR airways in order to alert pilots on a Victor airway that the aircraft receiver should be tuned to the station ahead. Pilots operating via the Low Altitude Victor airways system obtain track guidance

by reference to the closest VHF source forming the airway route segment, with exceptions.

#### channel

(1) A path along which information, particularly a series of digits or characters, may flow. (2) One or more parallel tracks treated as a unit. (3) In a circulating storage, a channel is one recirculating path containing a fixed number of words stored serially by word. Synonymous with (band). (4) A path for electrical communication. (5) A specific band of frequencies assigned for a particular purpose; for example, signaling channel, tone channel or voice channel.

#### character

(1) One symbol of a set of elementary symbols such as those corresponding to the keys on a typewriter. The symbols usually include the decimal digits 0 through 9, the letters A through Z, punctuation marks, operation symbols, and any other single symbols which a computer may read, store, or write. (2) The electrical, magnetic, or mechanical profile used to represent a character, presented by a group of other elementary marks, such as bits or pulses. (3) A code sequence representing a letter or function. For example a baudot code sequence, consists of a start pulse (space), five variable pulses (mark or space), and a stop pulse (mark), which can represent a letter or function.

#### characteristic distortion

A form of teletypewriter distortion which results in the impulses being either shortened or lengthened. This is a normal and predictable distortion of data bits produced by characteristics of a given circuit at a particular transmission speed. It is, therefore, a fixed distortion which generally does not change in degree from day to day.

#### chart

A graphic representation of a section of the earth's surface specifically designed for navigational purposes. A chart may also be referred to as a map. Although a chart is usually specifically designed as a plotting medium for marine or aeronautical navigation, it may be devoid of cultural or topographical data.

#### charted visual flight procedures/CVFP

An approach wherein a radar controlled aircraft on an IFR flight plan, operating in VMC conditions and having an ATC authorization, may proceed to the airport of intended

landing via visual landmarks and altitudes depicted on a charted visual flight procedure.

1. charted VFR Flyways -- Chaired VFR Flyways are flight paths recommended for use to bypass areas heavily traversed by large turbine-powered aircraft. Pilot compliance with recommended flyways and associated altitudes is strictly voluntary. VFR Flyway Planning charts are published on the back of existing VFR Terminal Area charts.

#### chase/chase aircraft

An aircraft flown in proximity to another aircraft normally to observe its performance during training or testing.

#### check

To visually examine a hardware item for its operational state or condition.

#### checked flight

That flight whose route segments will be compared against the qualifying route segments of all other qualifying flights during the operation of the conflict detection process.

#### checkout

Tests or observations of an item to determine its condition or status.

#### chemical waste landfill

Any approved landfill, in which protection against risk of injury to health or environment from the migration of hazardous/toxic chemicals/materials to land, water, or the atmosphere is provided from items deposited therein by locating, engineering and operating the landfill as specified in 40 CFR Part 761.

#### Chinook

A warm, dry foehn wind blowing down the eastern slopes of the Rocky Mountains over the adjacent plains in the U. S. and Canada.

### chip

An integrated circuit or the package that contains an integrated circuit. A chip is frequently referred to as an IC.

### choose

To make a decision on a course of action, such as in choosing a desired sequence.

### cipher

A cryptographic system in which cryptography is applied to plain text elements of equal length.

1. cipher-text -- Unintelligible text or signals produces through the use of cipher systems.

### circle(s)

A circular course, circuit or orbit used for navigational purposes.

1. circles of equal altitude -- A circle on the earth which is the locus of all points equidistant from the sub-point of a celestial body. The altitude of a celestial body is the same measured from any point on the circle.
2. diurnal circle -- The daily apparent path of a body on the celestial sphere caused by the rotation of the earth.
3. hour circle -- A great circle on the celestial sphere passing through the celestial poles and a given celestial body.
  - a. lower branch -- Half of an hour circle opposite from the upper branch.
  - b. upper branch -- That half of an hour circle or meridian which contains the celestial body or the observer's position.
4. small circle -- Any circle on a sphere whose plane does not pass through the center of that sphere.
5. vertical circle -- A great circle on the celestial sphere which passes through the observer's position and is perpendicular to the horizon.

### circling approach

1. circling approach area -- The area in which aircraft circle to land under visual conditions after completing an instrument approach.
2. circle-to-land maneuver/circling maneuver -- A maneuver initiated by the pilot to align the aircraft with a runway for landing when a straight-in landing from an instrument approach is not possible or is not desirable. This maneuver is made only after ATC authorization has been obtained and the pilot has established required visual reference to the airport.
3. circle to runway (runway number) -- Used by ATC to inform the pilot that he must circle to land because the runway in use is other than the runway aligned with the instrument approach procedure. When the direction of the circling maneuver in relation to the airport/runway is required, the controller will state the direction (eight cardinal compass points) and specify a left or right downwind or base leg as appropriate; e.g., "Cleared VOR Runway Three Six Approach circle to Runway Two Two," or "Circle northwest of the airport for a right downwind to Runway Two Two." See circle-to-land maneuver, landing minimums. (Refer to AIM)
4. circling minima -- See landing minimums.

### circuit

A path for electrical transmission of data, voice, facsimile and other intelligence between two or more points. The term "circuit" may be used interchangeably with "channel," "line," "facility," or "path."

1. circuit number -- Alpha-numeric identification symbol of a circuit, channel, line, etc.
2. circuit terminals -- The two points on a communications circuit which are most widely separated from each other.

### cirriiform

All species and varieties of cirrus, cirrocumulus, and cirrostratus clouds. Descriptive of clouds composed mostly or entirely of small ice crystals, usually transparent and white; often producing halo phenomena not observed with other cloud forms. The average height ranges upward from 20,000 feet in middle latitudes.

### cirrocumulus

A cirriform cloud appearing as a thin sheet of small white puffs resembling flakes or patches of cotton without shadows. They are sometimes confused with altocumulus.

### cirrostratus

A cirriform cloud appearing as a whitish veil. Usually fibrous, sometimes smooth, they often produces halo phenomena. This form may totally cover the sky.

### cirrus

A cirriform cloud in the form of thin, white feather like shapes in patches or narrow bands. They have a fibrous and/or silky sheen. Large ice crystals often trail downward a considerable vertical distance in fibrous, slanted, or irregularly curved wisps called mares' tails.

### citizen/user participation

Methods by which any member of the general public or airport users can participate in Government decision making, including exchange of information, opinions and recommendations.

### civil aircraft

Any aircraft other than a public aircraft.

1. civil aircraft of the United States -- Any aircraft registered under the provisions of the FAA Act.

### civil authority

Any government body that exercises control over the affairs of a governmental jurisdiction, including but not limited to city, county, state or local governmental organizations.

### Civil Aviation Security Field Office/CASFO

These offices administer and monitor the FAA's civil aviation security programs designed to combat hijacking and sabotage; and maintain liaison with airlines, airport operators, government, industry, and law enforcement officials on air transportation security matters.

### civil twilight

See twilight.

### class

(1) With respect to the certification, ratings, privileges and limitations of airmen, means a classification of aircraft within a category having similar operating characteristics. Examples include: single engine; multi-engine; land; water; gyroplane; helicopter; airship; and free balloon. (2) With respect to the certification, rating, privileges and limitations of airmen, means a classification of aircraft having similar characteristics of propulsion, flight or landing. Examples include: airplane; rotorcraft; glider; balloon; landplane; and seaplane.

### class B

One of two classes established by the Federal Communications Commission/FCC for regulating the maximum amount of radio frequency interference/RFI a computer is allowed to radiate.

### class mark

A mark in a computer program to permit (or inhibit) access to certain features.

### classify

To determine that official information requires, in the interests of national security, a specific degree of protection against unauthorized disclosure, coupled with a designation signifying that such a determination has been made.

1. classified information -- Official information which requires protection against unauthorized disclosure in the interests of the national security of the United States.
2. classifier -- An individual who makes a classification determination and applies a security classification to information or material. A classifier may be an original classification authority or a person who derivatively assigns a security classification based on a properly classified source.

### clear

To restore a storage or memory device to a prescribed state, usually that denoting zero or blank.



### clear air turbulence/CAT

Turbulence encountered in air where no clouds are present; more popularly applied to high-level turbulence associated with wind shear; often encountered in the vicinity of the jet stream. See wind shear, jet stream.

### clear icing/clear ice

Generally, the formation of a layer or mass of ice which is relatively transparent because of its homogeneous structure and small number and size of air spaces, it is synonymous with glaze, particularly with respect to aircraft icing. Compare with rime icing. Factors which favor clear icing are large drop size, such as those found in cumuliiform clouds, rapid accretion of supercooled water, and slow dissipation of latent heat of fusion.

### clearance

(1) An authorization by air traffic control, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace. See ATC instructions. (2) A determination by an official and specified authority that an individual is considered trustworthy to have access to any and all classified information within a designated classification category for which he/she may have a need-to-know.

1. air traffic control clearance (ICAO) -- Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.
2. clearance limit -- The fix, point, or location to which an aircraft is cleared when issued an air traffic clearance.
3. clearance limit (ICAO) -- The point of which an aircraft is granted an air traffic control clearance.
4. clearance void if not off by (time) -- Used by ATC to advise an aircraft that the departure clearance is automatically cancelled if takeoff is not made prior to a specified time. The pilot must obtain a new clearance or cancel his IFR flight plan if not off by the specified time.
5. clearance void time (ICAO) -- A time specified by an air traffic control unit at which a clearance ceases to be valid unless the aircraft concerned has already taken action to comply therewith.

6. cleared as filed -- Means the aircraft is cleared to proceed in accordance with the route of flight filed in the flight plan. This clearance does not include the altitude, SID, or SID Transition. See request full route clearance. (Refer to AIM)
7. cleared for (type of) approach -- ATC authorization for an aircraft to execute a specific instrument approach procedure to an airport; e.g., "Cleared for ILS Runway Three Six Approach." See request full route clearance. (Refer to AIM)
8. cleared for approach -- ATC authorization for an aircraft to execute any standard or special instrument approach procedure for that airport. Normally, an aircraft will be cleared for a specific instrument approach procedure. See Instrument Approach Procedure, cleared for (type of) approach. (Refer to AIM, FAR Part 91)
9. cleared for takeoff -- ATC authorization for an aircraft to depart. It is predicated on known traffic and known physical airport conditions.
10. cleared for the option -- ATC authorization for an aircraft to make a touch-and-go, low approach, missed approach, stop and go, or full stop landing at the discretion of the pilot. It is normally used in training so that an instructor can evaluate a student's performance under changing situations. See option approach. (Refer to AIM)
11. cleared through -- ATC authorization for an aircraft to make intermediate stops at specified airports without refiling a flight plan while en route to the clearance limit.
12. cleared to land -- ATC authorization for an aircraft to land. It is predicated on known traffic and known physical airport conditions.

### clearway

Generally, an area within which terrain or fixed obstacles may not extend above specified limits. These areas are required for certain turbine-powered operations, the size and upward slope of which differ depending on when the aircraft was certified. (1) An area beyond the takeoff runway, not less than 500 feet wide, centrally located about the extended centerline of the runway, and under the control of airport authorities. The clearway is expressed in terms

of a clearway plane, extending from the end of the runway with an upward slope not exceeding 1.25 percent, above which no object nor any terrain protrudes. However, threshold lights may protrude above the plane if their height above the end of the runway is 26 inches or less and if they are located to each side of the runway. (This definition applies to turbine engine powered airplanes certificated after August 29, 1959.) (2) An area beyond the takeoff runway extending no less than 300 feet on either side of the extended centerline of the runway, at an elevation no higher than the elevation of the end of the runway, clear of all fixed obstacles, and under the control of airport authorities. (This definition applies to turbine engine powered airplanes certificated after September 30, 1958 but before August 30, 1959.)

### climate

The statistical collective of the weather conditions of a point or area during a specified interval of time (usually several decades); it may be expressed in a variety of ways.

### climatology

The study of climate.

### climb completion time/CCT

The time a departing flight is expected to reach en route altitude.

### climb to VFR

ATC authorization for an aircraft to climb to VFR conditions within a control zone when the only weather limitation is restricted visibility. The aircraft must remain clear of clouds while climbing to VFR. See Special VFR. (Refer to AIM)

### climbout

That portion of flight operations between takeoff and initial cruising altitude. In the event of two way communications failure, it also provides altitude.

1. climbout fix -- The point in space where en route operation is resumed after climbout from MTR. This fix is described by reference to a ground based navigational aid.

2. climbout track -- An MTR associated track beginning at the route exit point and permitting a climbout departure from the exit point to the climbout fix.

### clinometer

An instrument used in weather observing for measuring angles of inclination. It is used in conjunction with a ceiling light to determine cloud height at night.

### clock

A device for measuring/indicating time.

1. clock, real-time -- A clock which indicates the passage of actual time, in contrast to a fictitious time set up by the computer program; such as, elapsed time in the flight of a missile, wherein a 60-second trajectory is computed in 200 actual milliseconds, or a 0.1 second interval is integrated in 100 actual microseconds.
2. clock, simplex -- A timing sequence that has no redundant capability.
3. clock, slave -- An identical timing sequence driven by the primary timing source.
4. clock time -- (1) Time as maintained internally by a computer. (2) A 4-digit number specifying Greenwich mean time in hours and minutes. Leading zeros are required for input to the computer.
5. clock, Wickes -- A digital readout device driven by a central clock, and generally located at each controller's console.

### closed

Restricted or secure.

1. closed area --An area normally established to safeguard classified information and/or material.
2. closed runway -- A runway that is unusable for aircraft operations. Only the airport management/military operations office can close a runway.
3. closed traffic -- Successive operations involving takeoffs and landings or low approaches where the aircraft does not exit the traffic pattern.

### cloud bank

Generally, a fairly well defined mass of cloud observed at a distance. It normally covers an appreciable portion of the horizon sky, but does not extend overhead.

### cloudburst

In popular terminology, any sudden and heavy fall of rain, almost always of the shower type.

### cloud detection radar

A vertically directed radar which is used to detect cloud bases and tops.

### clutch

A device for mechanically engaging and disengaging parts for the transfer of motion.

### clutter

In radar operations, clutter refers to the reception and visual display of radar returns caused by precipitation, chaff, terrain, numerous aircraft targets, or other phenomena. Such returns may limit or preclude ATC from providing services based on radar. See ground clutter, chaff, precipitation, target.

1. radar clutter (ICAO) -- The visual indication on a radar display of unwanted signals.
2. clutter counter -- A count of primary radar data falling within the large search area and small search area of a track within one operation of MRDP. If the count exceed certain limits, data is not stored for the automatic tracking function.
3. clutter density outlines -- Lines on a plan view display outlining weather or clutter areas.

### co-altitude/co-alt

(1) The small arc of a vertical circle between the observer's position and the body ( 90° altitude). (2) Two objects at the same altitude.

### co-declination/co-dec

See polar distance.

### co-latitude/co-lat

The small arc of the observer's celestial meridian, between the elevated pole and the body ( $90^\circ$  latitude).

### co-processor

An auxiliary micro-processor dedicated to a particular function.

### coastal fix

A navigation aid or intersection where an aircraft transitions between the domestic route structure and the oceanic route structure.

### coasted track

A radar track that is continued based on previous track characteristics in the absence of surveillance data reports.

### code(s)

(1) Given a set of elements in an initial system, a code is a representation of the elements in a second system which may be obtained with a logical translation rule. The standard data handling codes include USASCII and Baudot. The former is an eight-level code with a parity bit and start-stop bits, and the latter is a five level code using start-stop bits in addition to the five intelligence bits. (2) The language used to translate key-switch depressions into signal logic output. (3) The number assigned to a particular multiple pulse signal transmitted by a transponder (ATCRBS and SIF transponders). Codes are "discrete" or "non-discrete" according to the manner in which used. A code becomes non-discrete when it is assigned to more than one aircraft in a given airspace during the same period and the last two numerals are zero.

1. ASCII -- An 8 bit code (7 bits plus parity). There are 128 code positions, 95 for graphics and 33 for control. Accepted as the international data code, with the name International Standard Code for Information Interchange (ISCII). ASCII and ISCII are identical except for some bits for national code.
2. baudot code -- Five level binary code commonly used for the transmission of data in printing telegraph systems. It is a five level start-stop code in which each current impulse is of equal length; by different combinations of the five impulses, it is possible to form 31 letters or characters. Each character is

represented by five bits, plus a start pulse and a stop pulse. Synchronization must be maintained over only one character. The most serious problem is an error causing a false start pulse, which will cause an erroneous character to be printed. See baud.

3. EBCDIC -- An 8 bit plus parity code adopted by many computer manufacturers for internal use. The character set is essentially the same as for ASCII, but there are differences in control characters.

#### code system

(1) Any system of communication in which groups of symbols are used to represent plain text elements of varying length. (2) In the broadest sense, a means of converting information into a form suitable for communications or encryption, for example, coded speech, Morse Code, teletypewriter codes. (3) A cryptographic system in which cryptographic equivalents (usually called code groups) typically consisting of letters, digits or both in meaningless combinations are substituted for plain text elements which may be words, phrases or sentences. See brevity lists.

1. code establishment -- A process in the automatic tracking function whereby the successive correlation of beacon data having the same code establishes that beacon data as representative of the track.
2. code garbling -- False code information or cancellation of a desired code which occurs when a replay from a second (spurious) transponder is found or received at a position in the pulse train reply from the desired transponder.
3. code reliability index/CRI -- The ratio of the correct beacon codes to the total beacon codes for a simulation flight (approximate percentage of correct returns).
4. identity code -- A Mode 2 or 3/A beacon code.

#### coded route

A whole or partial flight plan route which is repeatedly used and stored in adaptation. The pre-filed route is identified by a code name. The information stored may include fixes, altitude, and cumulative elapsed time.

### cold front

Any non-occluded front which moves in such a way that colder air replaces warmer air.

### cold start

With respect to a computer, an establish/initiate mode of start-up at a time other than the initial start-up time, e.g., if the CCC system is established/initiated and the method is an initial program load without recovery data, a cold start exists.

### collapse

With respect to an aircraft accident, the inward movement of the floor, ceiling, walls or instrument panel in a manner which violates the livable area around the occupant/seat.

### collector

An electrode that collects electrons which have completed their functions within an electron tube such as a CRT.

### collimation

(1) The alignment of search and beacon radar returns from the same radar. The search radar is moved to the beacon position. (2) The correct alignment of the images of the bubble of a sextant and the object being observed.

1. collimation error -- The difference in range and azimuth between search and beacon signals from the same target using a common radar pedestal.

### collision

The in-flight contact of two or more aircraft. See near-midair collision.

1. Collision Avoidance System/CAS -- A device installed on aircraft for the purpose of: (1) Detecting the presence of other aircraft. (2) Automatically assessing the potential collision hazard represented by other aircraft. (3) Providing advance warning to the pilot if a threat is predicted by the equipment. (4) Providing appropriate command signals indicating the proper evasive maneuver. The CAS device performs its function continuously and automatically in all types of weather conditions without requiring visual assessment of collision risk by the pilot. Collision avoidance replaces see-and-be-seen protection by more efficient



means of protection and provides more functions than does PWI: it senses the presence of an intruder, evaluates the degree of danger, and commands a specific climb or dive avoidance maneuver. In common with a station-keeper, it will work in both IFR and VFR weather, while PWI effectiveness is often limited to VFR.

2. collision avoidance maneuver coordination messages -- Coordination messages that are transferred between two or more TCAS-II-equipped aircraft that are a potential collision threat to each other. These messages inform the other TCAS-II equipment of the intended avoidance maneuvers.

### column

A vertical series of data.

### Combined Approach Control/International Station/CAPIS

A combined approach control facility and international flight service station.

### Combined Center-RAPCON/CERAP

An air traffic facility which combines the functions of an ARTCC and a radar approach control facility. See Air Route Traffic Control Center/ARTCC, Radar Approach Control Facility.

### combining/de-combining

Adapting to traffic loading. At least two sectors, but usually not more than three sectors, are combined when converting from day to night watches. This is a short termed operational rearrangement of sectors and does not involve any change in wiring to the positions.

### command

A letter, word or series of symbols that direct the computer to perform a particular or sequence of operations.

### commercial operator

A person who, for compensation or hire, engages in the carriage by aircraft in air commerce of persons or property, other than as an air carrier or foreign air carrier or under the authority of FAR Part 357. Where it is doubtful that an operator is for "compensation or hire," the test applied is whether the carriage by air is merely incidental to the

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### Common Traffic Advisory Frequency/CTAF

A frequency designed for the purpose of carrying out airport advisory practices while operating to or from an uncontrolled airport. The CTAF may be a UNICOM, Multicom FSS, or tower frequency and is identified in appropriate aeronautical publications. (Refer to AC-90-42C)

### communications

The service which enables voice and/or data transmission between and/or among properly equipped airborne platform(s) and one or more ground stations.

1. full service communications -- Service required without access delay within a given airspace at any time, without prior arrangement.
2. limited service communications -- Service required without access delay within a given airspace, but only designated periods of time; or is required at all times, but some access delay is acceptable.

### communications security

(1) The isolation of the operating system, user programs and data files from one another in main storage in order to provide protection against unauthorized or concurrent access by other users or programs. (2) The breaking down of sensitive data into small, isolated blocks for the purpose of reducing risk to the data.

1. Communications Security/COMSEC -- (1) Commonly applied to equipment and/or systems for encryption, transmission and decryption of classified messages or data. (2) The protection resulting from any measure taken to deny unauthorized persons information related to national security that might be derived from telecommunications, or to ensure the authenticity of such telecommunications.

### communication tag/symbolic tag

A tag common to or used by two or more computer sub-programs of a program system to identify a portion of information which must be communicated between computer sub-programs.

### compandor

A device consisting of an intensity range compressor and expander that is used on speech circuits to improve transmission quality by reducing the effect of noise.

### compared flight

Any flight, any of whose route segments are compared with the route segments of the checked flight during the operation of the conflict detection process.

### compartmentalized radars

A technique for reducing the amount of radar data that is filtered in the display system for each plan view display. This reduction is accomplished by defining more radar sites (artificial radar) for the CDC than actually exists. The additional radar sites divide the total radar data into smaller geographic areas than exist with the actual radar sites. Each PVD will be paired with a smaller geographic area, and consequently a smaller amount of radar data is filtered in the display system for each PVD.

### compass

An instrument which indicates direction measured clockwise from true north or grid north.

1. direct indicating compass -- A magnetic compass in which the dial, scale or index is carried on the sensing element.
2. magnetic compass -- An instrument which indicates direction measured clockwise from magnetic north.
3. remote indicating compass -- A magnetic compass, the magnetic sensing unit of which is installed in an aircraft in a position as free as possible from causes of deviation. A transmitter system is included so that the compass indication can be read on a number of repeater dials suitably placed throughout the aircraft.

### compass direction

The direction measured clockwise from a particular compass needle which is more often than not displaced from the magnetic meridian by local deviating magnetic fields.

### compass locator

A low power, low or medium frequency (L/MF) radio beacon installed at the site of the outer or middle marker of an instrument landing system (ILS). It can be used for navigation at distances of approximately 15 miles or as authorized in approach procedures.

1. compass locator (ICAO) -- An LM/MF NDB used as an aid to final approach.
2. Outer Compass Locator/LOM A compass locator installed at the site of the outer marker of an instrument landing system. See Outer Marker.
3. Middle Compass Locator/LMM A compass locator installed at the site of the middle marker of an instrument landing system. See Middle Marker.

#### compass rose

A circle, graduated in degrees, printed on some charts or marked on the ground at an airport. It is used as a reference to either true or magnetic direction.

#### compass swing

A procedure for determining compass deviation on various aircraft headings for use in compensating or calibrating the compass. This can be done either on the ground or in the air.

#### compatible land use

The use of land that is identified as normally compatible with the outdoor noise environment (or an adequately attenuated noise level reduction for the indoor activities involved) at that location, because the yearly day-night average sound level is at or below that identified for that or similar use under Appendix A of FAR Part 150.

#### compiler

Utilizing the compool, translates and assembles programs written in source language into an assembly language which is subsequently assembled by the assembler into the machine language code of the computer.

#### completion criteria

Guidance which stipulates an approved level of system, subsystem, equipment or component completion.

1. Level I -- All functional go/no-go tests on the units required by the specific test area of Program Shakedown have been successfully completed while the required number of units are operating at the same time.
2. Level II -- All functional and performance tests have been successfully completed on the sub-systems required

by a specific test area of System Shakedown, and these sub-systems are integrated into a working whole, within the existing integrated equipment system.

3. Formal Category A -- All sub-systems of the equipment system have successfully completed all functional and performance tests, and all sub-systems are integrated into a working whole within the complete system environment.

See categories, testing.

#### complexity level

A measure of the number of active elements required to perform a specific system function.

#### compool

A central dictionary of all sub-programs, tables, and item (individual pieces of information) tags in the system. It is composed of a series of tables which make up a directory containing information pertaining to all the communication tags used in the operational programs. The information contained in the compool is used during the program assembly process wherever a communication tag has been used as the operand of an instruction. The information in these tables includes absolute address information, table length, sub-program length, item size, and item location within a data word.

1. compool documentation -- A function which analyzes an assembled Compool and produces various printouts for programmer reference. The output is used by the programmer for program design, production, modification, and maintenance.

#### compose/enter

The act of making up a message, including all required elements of the message, and providing the message, as in composing and entering a flight plan amendment to the computer.

#### composite flight plan

A flight plan which specifies VFR operations for one portion of flight and IFR for another portion. It is used primarily in military operations. (Refer to AIM)

### composite picture signal

A video signal consisting of: a picture signal (including horizontal and vertical components of the blanking signal), and a synchronizing signal (horizontal and vertical components).

### composite route system

An organized oceanic route structure, incorporating reduced lateral spacing between routes, in which composite separation is authorized.

1. composite separation -- A method of separating aircraft in a composite route system where, by management of route and altitude assignments, a combination of half the lateral minimum specified for the area concerned and half the vertical minimum is applied.

### compressor

The part of a compandor that is used to compress the intensity range of signals at the transmitting end of a circuit. It amplifies weak signals and attenuates strong signals.

### compromise

(1) An unauthorized loss of sensitive information. (2) The disclosure of classified information to persons not authorized access thereto.

1. compromising emanations -- Electromagnetic emanations that may convey data and that, if intercepted and analyzed, might compromise sensitive information being processed by an AIS.

### compromise net

A network, used in conjunction with a hybrid junction, to balance a connected circuit such as a subscriber's loop, other lines, or equipment. It is designed for an average loop length or an average subscriber's set, or both, to secure compromise between the extremes of impedance balance.

### compulsory reporting points

Mandatory reporting points for the pilot. The points are given on aeronautical charts and in the Federal Register; Title 14, Aeronautics and Space, Part 71, Designation of Federal Airways, Area Low Routes, Controlled Airspace, and Reporting Points.

### computed delay interval

See stored fix time.

### computed time of arrival/CTA

See stored fix time.

### computer

A mechanical or electronic apparatus which, by means of stored instructions and information, performs rapid, often highly complex, mathematical calculations or compiles, correlates and selects data. Computers can be digital, analog or hybrid.

1. analog computer -- A computer which uses coded physical quantities, such as electrical resistance, voltage, etc., to solve problems, especially differential equations, and usually gives the solution in the form of a graphic display, such as an oscilloscope pattern.
2. digital computer -- A computer which uses numbers, symbols, etc., consisting of coded digits to solve problems by means of arithmetic, especially in a binary system.
3. hybrid computer -- A computer using both analog and discrete representation of data. Also, it can be a digital and analog computer combined.

Computers can be broken down into various categories, which are generally recognized to be:

1. micro-computer -- A category of stored program digital computers which are suitable for general purpose application and are moderately priced. Additional characteristics include an individual power supply and enclosure, capability for attaching output peripherals such as video screen and/or printer, as well as storage devices such as floppy diskettes, tape cassettes or fixed disks. This category of computer is programmable in BASIC or equivalent level language.
2. mini-computer -- The term applies to the whole class of stored-program digital computers which are suitable for general purpose application and are priced under \$100,000 in a minimum configuration. The typical minicomputer is a parallel, binary processor with a 16-bit word length (though 8-bit, 12-bit, 18-bit, 24-bit and 32-bit word lengths are also fairly common). It uses integrated circuits and is housed in a compact



cabinet suitable for either tabletop use or mounting in a standard 19-inch rack. It offers from 4,096 to 32,768 words of magnetic core or semi-conductor storage with a cycle time of 0.8 to 1.5 micro-seconds. Today's typical minicomputer uses a one address instruction format and has two accumulators, a single index register and a multi-level indirect addressing facility. Floating point arithmetic requires the use of software subroutines.

3. super mini-computer -- A computer that is distinguished by a word length of more than 16-bits and a main storage capacity of one million bites or more. An architecture that represents an extension of the architecture used in a smaller minicomputer and a purchase price for the basic CPU and minimum main storage of under \$300,000. The great majority of the current super-minis use a 32-bit word length. A 32-bit word neatly holds four 8-bit bytes or two of the 16-bit words used in most of the smaller minicomputers. The 32-bit word length has been shown to yield an attractive balance between performance and cost in a broad range of applications. As a result, this word length has become so nearly universal among super mini designers that the terms "super minis" and "32-bit minicomputers" have become virtually synonymous.
4. memory typewriters -- A type of micro computer that permanently or temporarily stores data on tape or disk.
5. large mainframe computers -- The mainframe of a computer is the cabinet that houses the Central Processor Unit/CPU and main memory. It is, therefore, separate from the peripheral devices (card readers, printers, tape drives, etc.) and device controllers. Typically, it is the largest component in size and cost, but modern electronics have allowed great reduction to both in recent years. The term "mainframe" comes from the use of "frame" as a device to hold electronics (rack is also frequently used); and the frame holding the electronics that do the computing might reasonably be the mainframe. In modern systems with very large main memory, some memory modules are housed in cabinets separate from the mainframe. Frequently, they are attached and thus become part of the mainframe cabinet. Multi-processor systems with more than one CPU are referred to as two or three mainframe systems, in which case the mainframe refers only to the CPU and not the main memory. The name central processor or central processing unit/CPU, is used to describe elements that carry out a variety of essential data manipulations and controlling tasks at

the heart of the computer. Probably the most obvious element is the one required to carry out arithmetic and other operations on data, which is usually called the "arithmetic unit." The other obvious element is the control unit, required to supervise the functioning of the machine as a whole, calling into operation the various units as required by the program. It receives the program instructions one by one in sequence, interprets them and sends appropriate control signals to the various units. Different levels of storage (or memory) are usually employed in a computer system. Two important characteristics of main memory are: (a) the main memory is a read/write (RW or R/W) memory permitting data to be stored or retrieved at comparable intervals, and (b) the main memory is a random access memory (RAM); i.e., the time to access each stored word is constant, independent of the sequence in which words were stored. This can be contrasted with several serial memories such as disks, drums, tapes and shift registers in which data is available only in the same sequence as originally stored.

5. plug-compatible mainframe -- Computer mainframes that can directly execute all application programs and system software written for the IBM system 370, 303X Series, 308X Series and or 4300 Series computers and can utilize the peripheral equipment available for these computers.

#### computer based system

A term which refers to any system utilizing a computer for the execution of specified functions. Included, but are not limited to such systems are the following: area navigation systems, flight management systems, flight planning (operations) systems, flight/ATC simulators, modeling, analysis and design systems, ATC navigation systems, ATC surveillance systems, communications systems, etc.

1. computer based instruction/CBI -- A overall term which refers to any generalized use of computers in the training process.

#### Computer Display Channel/CDC

The CDC is the Display Channel (DC) based upon the Raytheon 730 Computer.

#### computer entry devices

Devices located at the D and A controller consoles which are used to enter data into the CCC; the devices of the alphanumeric keyboard and quick action keys.

#### computer identification number

A 3-digit numerical code, automatically assigned by the computer, that can be used to identify flight information to the computer. Each aircraft will have an individual computer identification number.

#### computer program

A plan or routine for solving a problem on a computer, as contrasted with such terms as fiscal program, military program and development program.

1. computer program production -- The set of software activities which begin with the initiation of the computer program design activity and terminate with the delivery of a tested, deliverable computer program product. Activities included in computer program production are design, coding, assembly, sub-program testing, assembly testing, and the preparation of all required documentation. The deliverable computer program product includes the following: sub-program card decks, program tapes, sub-program and table listings, sub-program design and coding specifications, sub-program and assembly test specifications, and acceptance test specifications.

#### computer program sub-system

That portion of the National Airspace System which is made up of the complete set of computer program components: operational, utility, support, and data reduction. See program component.

#### Computer Readout Device/CRD

The computer readout device displays tabular information as a result of a display request action or a computer readout.

#### COMSEC

A contraction for communication security commonly applied to equipment and/or systems for encryption, transmission and decryptment of classified messages or data.

### concealment system

A method of achieving confidentiality in which the existence of sensitive information is hidden by embedding it in irrelevant data.

### condensation

See change of state.

1. condensation level -- The height at which a rising parcel or layer of air would become saturated if lifted adiabatically.
2. condensation nuclei -- Small particles in the air on which water vapor condenses or sublimates.
3. condensation trail/contrail/vapor trail -- A cloud like streamer frequently observed to form behind aircraft flying in clear, cold, humid air.

### condition code

This code conditions all receiving equipment on the circuit to monitor the station select code, which follows, to see if its station is being selected.

### conditionally unstable air

Unsaturated air that will become unstable on the condition it becomes saturated. See instability.

### conditioning

The process of receiving certain code characters, which will in turn allow a station to copy only those messages intended for that station.

1. conditional output -- A response to a given input which will not occur until all requirements for its release have been satisfied.

### conduct

A series of related actions, designed to achieve a result, as in conducting a radio/radar search.

### conduction

The transfer of heat by molecular action through a substance or from one substance in contact with another. The transfer is always from warmer to colder temperature.

### confer

Holding a discussion without necessarily negotiating.

### conference

The capability of simultaneous telephone connection to several parties.

### confidence

Assurance or certainties.

1. confidence level -- Statistical boundaries limiting an estimate with a specified risk.
2. confidence limits -- Extremes of a confidence interval within which the true value has a designated chance (confidence level) of being included.
3. guaranteed confidence signals -- Signals indicating proper equipment operation.

### confidentiality

(1) A concept that applies to information. It is the state afforded to information which requires protection against unauthorized disclosure. (2) A concept that applies to data that must be held in confidence and that describes the status and degree of protection that must be provided for such data about individuals as well as organizations.

### configuration

(1) The specific number and type of major components and peripheral devices which make up a computer system. (2) A group of modules or unit which are inter-connected to perform a set of tasks. The following independent, co-existing configurations may exist:

1. operational configuration -- The configuration which forms the hardware environment for that set of programs that performs the operational ATC tasks.
2. non-operational configuration -- Any configuration which forms the hardware environment for any set of programs other than that set which performs the operational ATC tasks. Non-operational tasks include maintenance and data reduction.

### configuration control

The systematic evaluation, coordination, approval, or disapproval of all changes to a NAS baseline configuration.

1. configuration control directive -- Record of a decision of the NASPO approving a baseline configuration and all sub-sequent changes thereto.
2. configuration control register -- A register in each system element and control unit of the IBM 9020 (except the 2821), which controls communication between system components.

### configuration management phase

That period from assignment of responsibility to NASPO until all retrofits approved prior to commissioning the final site installation have been completed and all sites have been commissioned.

### configuration status

The accounting for, and documenting of, changes made to end items subsequent to establishing the NAS baseline configuration.

### confirm

To make certain that what should have occurred, did in fact occur, as in confirming computer action during transition stages.

### conflict

The recognition of the predicated loss of separation minima.

1. conflict alarms -- Visual and/or aural alarms generated by a collision avoidance system to inform the flight crew of a threat or a possible collision with another aircraft.
2. conflict alert -- A function of certain air traffic control automated systems designed to alert controllers of an existing or pending situations recognized by the program parameters that require immediate attention/action.
3. conflict detection -- A function which provides an indication of an imminent air collision. See collision avoidance.

4. conflict resolution -- The resolution of potential conflicts between IFR aircraft and VFR aircraft that are radar identified and in communication with ATC by ensuring that radar targets do not touch. Pertinent traffic advisories shall be issued when this procedure is applied. Note: This separation procedure will not be provided utilizing fully digitized radar systems. See controlled airspace-Airport Radar Service Area/ARSA, Outer Area.
5. conflicting flight -- A compared flight which is found to be in conflict with the checked flight.

conformance

An agreement check between two quantities. An example is the time agreement between a reported time of arrival for a fix and the stored fix time for the same fix.

consolan

A low frequency, long-distance NAVAID used principally for transoceanic navigation.

constant ratio code

A code in which all characters are represented by combinations having a fixed ratio of ones and zeros.

constant pressure chart

A chart of a constant pressure surface. It may contain analyses of height, wind, temperature, humidity, and/or other elements.

constellation

(1) A recognizable group of stars by means of which individual stars may be identified. (2) A group of three to five orbiting satellites.

consumer(s)

Final users and/or purchasers of aviation goods and/or services (e.g., airline passengers) as well as those people directly affected by aviation (i.e., aircraft noise).

1. consumer's decision risk -- The risk, or probability, that a product will be accepted by a reliability/maintainability test when it should properly be rejected.

## contact

(1) To establish communications via radio with another, informing or discussing matters of concern, as in contacting an overdue aircraft. (2) An instruction issued by a controller to establish communications with (followed by the name of the facility and, if appropriate, the frequency to be used). (2) A flight condition wherein the pilot ascertains the attitude of his aircraft and navigates by visual reference to the surface. See contact approach, radar contact.

1. contact approach -- An approach wherein an aircraft on an IFR flight plan, having an air traffic control authorization, operating clear of clouds with at least 1 mile flight visibility and a reasonable expectation of continuing to the destination airport in those conditions, may deviate from the prescribed instrument approach procedure and proceed to the airport of destination by visual reference to the surface. This approach will only be authorized when requested by the pilot and the reported ground visibility at the destination airport is at least 1 statute mile. (Refer to AIM)

## Conterminous U. S./Continental U. S.

The forty nine States located on the continent of North America. The original 48 states, Alaska and the District of Columbia.

## Continental Control Area/CCA

Airspace at and above 14,500 feet within the 48 contiguous states including the District of Columbia and Alaska south of latitude 68° 00' N., excluding the Alaska peninsula west of 160° 00' W. Does not include prohibited areas or most restricted areas. See controlled airspace.

## continual monitoring

The capability of the remote monitoring sub-system (RMS) portion of each NAS sub-system to continually (recurring in rapid succession) monitor its sensors in the determination of the sub-systems condition such as status, alarms and alerts.

## contour

(1) In meteorology, a line of equal height on a constant pressure chart; analogous to contours on a relief map. (2)



In radar meteorology, a line on a radar scope of equal echo intensity.

#### contour lines

(1) Lines drawn on maps and charts joining points of equal elevation. (2) Lines connecting points of equal altitude on a constant pressure chart.

#### contouring circuit

On weather radar, a circuit which displays multiple contours of echo intensity simultaneously on the plan position indicator or range height indicator scope. See contour.

#### contract

1. contract acceptance inspection/CAI -- The formal acceptance (by an appropriate agency) of a constructed facility from the construction contractor or an installed system or equipment from the installation contractor.
2. contract data requirements List/CDRL -- In contract form, listing all data items selected from an authorized data list (ADL), required to be delivered under the contract.

#### Contracting Officer/CO

A person having the legal responsibility for contract (as a representative of an agency/company) with a contractor. Only the contracting officer has the authority to issue directions or enter into agreements which may constitute new assignment of work or change the expressed terms, conditions or specifications incorporated into the contract or delivery schedule.

1. Contracting Officer's Representative/COR, Resident Engineer/RE -- The field representative of the agency (FAA) office that has contract responsibility for a contractor's task. The RE is primarily responsible for field agency-contractor liaison. The RE also represents the office during the JAI with other FAA groups.
2. Contracting Officer's Technical Representative/COTR, Technical On-site Representative/TOR -- The COTR/TOR is the field representative of the agency (FAA) that has contract responsibility for a contractor's system/equipment installation task.

### contrast

The ratio between the maximum and minimum brightness values.

1. contrast control -- The manual gain control for a video signal. The contrast control affects both brightness and contrast of the display.

### control area

See controlled airspace.

1. control area extension -- Designated airspace over the high seas within which the U.S. has accepted the responsibility of providing air traffic services. This service is provided in a manner consistent with that adopted for airspace under its domestic jurisdiction. While state aircraft may operate on a "due regard" basis in such areas, it is the Department of Defense policy to comply with the provisions of such service to the extent that the military mission permits.

### control objective

A desirable goal or condition for a specific event cycle that reflects the application of the overall objectives of internal control to that specific cycle. Control objectives are not absolute. Since the achievement of control objectives can be and often is affected by such factors as budget constraints, staffing limitations, consideration of other workload priorities, statutory and regulatory restrictions and cost-benefit considerations, the lack of achievement of control objectives does not necessarily represent a defect or deficiency requiring correction. Such limiting factors should be considered in determining whether there is reasonable assurance that resources are properly managed and safeguarded.

### control office/point

The location designated as having the responsibility for maintaining the overall telephone circuit. In most cases this is the office which coordinates all activities on a circuit with a customer.

### control point

The position an aircraft must reach at a predetermined time.

### control sector

An airspace area of defined horizontal and vertical dimensions for which a controller or group of controllers has air traffic control responsibility, normally within an air route traffic control center or an approach control facility. Sectors are established based on predominant traffic flows, altitude strata, and controller workload. Pilot-communications during operations within a sector are normally maintained on discrete frequencies assigned to the sector. See discrete frequency.

### control slash

A radar beacon slash representing the actual position of the associated aircraft. Normally, the control slash is the one closest to the interrogating radar beacon site. When ARTCC radar is operating in narrowband (digitized) mode, the control slash is converted to a target symbol.

### control unit

Any unit in a computer system which is used to adapt a physical device to the I/O interface or to a general purpose adapter interface. See I/O path.

### control zone

The space expressed in feet of radius, that surrounds equipment that is used to process sensitive information and which is under sufficient physical and technical control to preclude an unauthorized entry or compromise. Synonymous with a security perimeter.

### Control Zone/CZ

See controlled airspace.

### controllable isolation

Controlled sharing in which the scope or domain of authorization can be reduced to an arbitrarily small set or sphere of activity.

### controlled access/controlled accessibility

See access control.

### controlled aircraft

Aircraft that are participating and receiving traffic separation service from the ATC system.

## controlled airspace

Airspace designated as a control zone, airport radar service area, terminal control area, transition area, control area, continental control area, and positive control area within which some or all aircraft may be subject to air traffic control. (Refer to AIM, FAR Part 71)

1. Control Zone/CZ -- Controlled airspace which extends upward from the surface of the earth and terminates at the base of the continental control area. Control zones that do not underlie the continental control area have no upper limit. A control zone may include one or more airports and is normally a circular area of 5 statute miles in radius with extensions where necessary to include instrument approach and departure paths.
2. Airport Radar Service Area/ARSA -- Regulatory airspace surrounding designated airports wherein ATC provides radar vectoring and sequencing on a full-time basis for all IFR and VFR aircraft. The service provided in an ARSA includes: IFR/IFR - standard IFR separation; - IFR/VFR traffic advisories and conflict resolution; and VFR/VFR - traffic advisories and, as appropriate, safety alerts. The AIM contains an explanation of ARSA. The ARSA's are depicted on VFR aeronautical charts. See conflict resolution, outer area.
3. Terminal Control Area/TCA -- Controlled airspace extending upward from the surface or higher to specified altitudes, within which all aircraft are subject to operating rules and pilot and equipment requirements specified in FAR Part 91. TCA's are depicted on Sectional, World Aeronautical, En Route Low Altitude, DOD FLIP and TCA charts. (Refer to FAR Part 91, AIM)
4. Transition Area -- Controlled airspace extending upward from 700 feet or more above the surface of the earth when designated in conjunction with an airport for which an approved instrument approach procedure has been prescribed, or from 1,200 feet or more above the surface of the earth when designated in conjunction with airway route structures or segments. Unless otherwise limited, transition areas terminate at the base of the overlying controlled airspace. Transition areas are designed to contain IFR operations in controlled airspace during portions of the terminal operation and while transiting between the terminal and en route environment.

5. control area -- Airspace designated as Colored Federal airways, VOR Federal airways, control areas associated with jet routes outside the continental control area (FAR 71.163), additional control areas (FAR 71.163), control area extensions (FAR 71.165) and area low routes. Control areas do not include the continental control area, but unless otherwise designated, they do not include the airspace between a segment of a main VOR Federal airway and its associated alternate segments with the vertical extent of the area corresponding to the vertical extent of the related segment of the main airway. The vertical extent of the airspace extends upward from 700 feet above the surface (until designated from 1,200 feet above the surface or from at least 300 feet below the MEA, whichever is higher) to the base of the continental control area. See FAR Part 71.
6. Continental Control Area/CCA -- Airspace at and above 14,500 feet within the 48 contiguous states including the District of Columbia and Alaska south of latitude 68° 00' N., excluding the Alaska peninsula west of 160° 00' W. It does not include airspace less than 1500 feet above terrain and prohibited and restricted areas (except certain specified restricted areas).
7. Positive Control Area/PCA -- Airspace designated in FAR, Part 71 within which there is positive control of aircraft. Flight in PCA is normally conducted under instrument flight rules. PCA is designated throughout most of the conterminous United States and its vertical extent is from 18,000 feet MSL to and including flight level 600. In Alaska PCA does not include the airspace less than 1,500 feet above the surface of the earth nor the airspace over the Alaska Peninsula west of longitude 160° W. Rules for operating in PCA are found in FARs 91.97 and 91.24.
8. transition area -- Airspace extending upward from 700 feet or more above the surface of the earth when designated in conjunction with an airport for which an approved instrument approach procedure has been prescribed, or from 1,200 feet or more above the surface of the earth when designated in conjunction with airway route structures or segments. Unless otherwise limited, transition areas terminate at the base of the overlying controlled airspace.

#### controlled airspace (ICAO)

Airspace of defined dimensions within which air traffic control service is provided to controlled flights.

1. Control Area (ICAO) --- A controlled airspace extending upward from a specified limit above the earth.
2. Control Zone (ICAO) -- A controlled airspace extending upwards from the surface of the earth to a specified upper limit.
3. Terminal Control Area (ICAO) -- A control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes.

#### controlled area

An area which requires control of access, occupancy and working conditions for radiation protection purposes.

#### controlled departure time/CDT

(1) A departure time, usually including a ground delay, assigned to an aircraft as part of an arrival flow program. CDTs are computed for individual aircraft and are used as a means to spread demand for a particular NAS resource over a longer time period in order to alleviate a condition where demand is predicted to be significantly in excess of capacity. (2) A method of arriving at a destination at a specified time by changing direction and/or speed of an aircraft.

1. controlled departure time (CDT) programs -- These programs are the flow control process whereby aircraft are held on the ground at the departure airport when delays are projected to occur in either the en route system or the terminal of intended landing. The purpose of these programs is to reduce congestion in the air traffic system or to limit the duration of airborne holding in the arrival center or terminal area. A CDT is a specified departure slot shown on the flight plan as an expected departure clearance time (EDCT)

#### controlled security mode

The mode of operation which provides a type of multi-level security in which a more limited amount of trust is placed in the hardware/software base of the system, with resultant restrictions on the classification levels and clearance levels that may be supported.

### controlled sharing

The condition which exists when access control is applied to all users and components of a resource-sharing AIS system.

### Controlled Visual Flight Rules/CVFR

VFR operation in which a pilot has filed a flight plan or flight intent requesting ATC separation service and is receiving such service. See Terminal Radar Service Area.

### Controlled Visual Rules/CVR

Visual flights in which avoidance of collision with all other aircraft is assured by the ATC system. To enable the ATC system to carry this out, CVR flight is restricted to Positive Control Airspace.

### controller

See Air Traffic Control Specialist.

### controlling obstruction

The highest obstruction relative to a prescribed plan within a specific area.

### convection

(1) In general, mass motion within a fluid resulting in transport and mixing of the properties of that fluid. (2) In meteorology, atmospheric motions that are predominantly vertical, resulting in vertical transport and mixing of atmospheric properties; distinguished from advection.

### convective cloud

See cumuliform.

### convective condensation level/CCL

The lowest level at which condensation will occur as a result of convection due to surface heating. When condensation occurs at this level, the layer between the surface and the CCL will be thoroughly mixed, the temperature lapse rate will be dry adiabatic, and the mixing ratio will be constant.

### convective instability

The state of an unsaturated layer of air whose lapse rates of temperature and moisture are such that when lifted

adiabatically until the layer becomes saturated, convection is spontaneous.

### Convective SIGMET/WST/Convective Significant Meteorological Information

A weather advisory concerning convective weather significant to the safety of all aircraft. Convective SIGMET's are issued for tornadoes, lines of thunderstorms, embedded thunderstorms of any intensity level, areas of thunderstorms greater than or equal to VIP level 4 with an areal coverage of 4/10 (40%) or more, and hail 3/4 inch or greater. See SIGMET, CWA, and AIRMET. (Refer to AIM)

### convergence

The condition that exists when the distribution of winds within a given area is such that there is a net horizontal inflow of air into the area. In convergence at lower levels, the removal of the resulting excess is accomplished by an upward movement of air; consequently, areas of low level convergent winds are regions favorable to the occurrence of clouds and precipitation. Compare with divergence.

### conversion

The process of transporting a computer system from one environment to a different environment while maintaining the functional requirements of the original system. This activity involves the translating of data, files or programs into formats or representations compatible with a new software or hardware system. From the user's viewpoint, the system of programs performs the same function in the old and new environments. Conversion may be accomplished using a number of techniques including, recording, reprogramming and redesign.

### converted data

Alphanumeric data (generally flight movement data) converted by the computer program for insertion into numeric and logical tables (files).

1. converted fix -- A fix developed by the program from the filed route. Any flight plan fix located within the control area and inbound/outbound fixes converted for insertion into numeric and logical tables (files).
2. converted route -- Numeric and logic data created by the computer program from input filed route data to define the route of flight.



3. converted route data -- Alphanumeric route data converted and expanded into numeric and logic files by the computer program to define the route of flight.
4. converted segment -- Two Converted Fixes and the line between them.

### Cooperative Independent Surveillance/CIS

A system which derives aircraft position directly from an exchange with a cooperative aircraft unit, without position data from the navigation system. The position is computed by the ground based system and may be transmitted back to the aircraft.

### coordinate(s)

The intersection of lines of reference, usually expressed in degrees/minutes/ seconds of latitude and longitude, used to determine position or location.

1. coordinates, display -- Coordinates covering a particular plan view display's geographical area.
2. coordinates, system -- Coordinates covering a position within the geographical area of a facility.
3. coordinates, X, Y -- Geometric notations used to define the position of a point.

### coordinate conversion

The first step in the processing of radar data. It is the conversion of radar data coordinates from radar site polar coordinates to system XY coordinates. The system XY cartesian axis is located at the lower left hand corner of the plane that is tangent to the earth's surface at the origin of the stereographic axis. The positive Y axis has the direction of true north at the point of tangency. The coordinate conversion of radar data results in an approximation to the stereographic projection of this data onto the tangent plane.

### coordination fix

Used as a common reference point for coordination between facilities. A fix is used for the purpose of handoff, transfer control of an aircraft, or coordinate flight progress. For terminal facilities, it may also serve as a clearance for arriving aircraft. See inbound fix, outbound fix, handoff fix.

copy card

A tabulating card with a frame of unexposed and unprocessed microfilm mounted in or above a rectangular hole for subsequent exposure and development while still mounted in the card.

core/core memory

See storage, magnetic core.

coriolis error

See celestial observation errors.

coriolis force

An apparent force due to the rotation of the earth which causes a moving body to be deflected to the right in the Northern Hemisphere and to the left in the Southern Hemisphere.

corona

A prismatically colored circle or arcs of a circle with the sun or moon at its center. The coloration is from blue inside to red outside (opposite that of a halo). It varies in size (much smaller) as opposed to the fixed diameter of a halo. Characteristic of clouds composed of water droplets, it is valuable in differentiating between middle and cirriform clouds.

corner effect

The rounding off of the attenuation versus frequency characteristic of a filter at the extremes (or corners) of the passband.

corposant

See St. Elmo's Fire.

correction

An error has been made in the transmission and the correct version follows.

### corrective advisory

A TCAS resolution advisory that instructs the pilot to deviate from a current vertical rate, e.g., DON'T CLIMB when the aircraft is climbing.

### corrective maintenance

All unscheduled inspection, testing or repair activities performed on equipment, following its failure, for the purpose of restoring that equipment to satisfactory operating condition.

1. corrective maintenance action -- Action required to repair a single failure; comprised of all those individual maintenance tasks involved in the maintenance procedure, e.g., fault localization, isolation, repair, checkout, etc.
2. corrective/preventive maintenance data -- Maintenance log information consisting of any maintenance actions performed, corrective or preventive. This would include such things as failure reports and transient problems encountered, results of investigations and testing, equipment adjustments, etc.

### correlated radar data

Primary or beacon radar data within the small search area or the large search area of the track with which it has been identified. In any one cycle for a given track, correlated radar data (if more than one datum qualifies) will be of the same datum-track priority and it will be the highest datum-track priority data received in that cycle. See correlation.

### correlation

The relative association of two sets of data; e.g., positional agreement between radar data and the computer predicted track position. It is the process whereby primary/beacon radar data are uniquely identified with a given track. The process is used by the automatic tracking process for position or velocity smoothing or extrapolating of the track position. See priority, standard correlation.

### correlation area

The airspace over a specified geographical area in which NORAD, PACAF or PIAD Region Operations Control Centers have the responsibility for air defense.

### correlation fix

A fix used for flight plan correlation.

### correlation line

A reference line established by NORAD, PACAF, or PIAD Region Commander, from which penetration or time-over for a flight is computed for the purposes of flight plan correlation.

### correlation preference value

A numerical value is assigned to each track datum pair based on radar datum class and track class relationships. This value is used in the correlation process to obtain the best track/datum pairing. See priority.

### cost-risk analysis

An analysis of the cost of potential risk of loss of compromise of data in an ADP system without data protection versus the cost of providing data protection.

### count-down

The rate of beacon interrogations compared with that of parent radar pulses; this term is also used to compare the number of replies transmitted by a transponder with the total number of interrogation pulses received.

### coupled approach

An instrument approach performed by the aircraft autopilot which is receiving position information and/or steering commands from on-board navigation equipment. In general, coupled non-precision approaches must be discontinued and flown manually at altitudes lower than 50 feet below the minimum descent altitude, and coupled precision approaches must be flown manually below 50 feet AGL. Coupled and autoland approaches are flown in VFR and IFR. It is common for air carriers to require their crews to fly coupled approaches and autoland approaches (if certified) when the weather conditions are less than approximately 4000 RVR. See autoland approach

### course

(1) The intended direction of flight in the horizontal plane measured in degrees from north. (2) The direction of the intended path of an aircraft over the earth; or the direction of a line on a chart representing the intended aircraft path expressed as the angle measured from a

specific reference datum clockwise from 0° thru 360° to the line. (3) The ILS localizer signal pattern usually specified as the front course or the back course. (4) The intended track along a straight, curved, or segmented MLS path. See bearing, radial, Instrument Landing System, Microwave Landing System.

1. course setting error/CSE -- The difference between the desired course setting and the course which is actually set.
2. great circle course -- The route between two points on the earth's surface measured along the shorter segment of the circumference of the great circle between the two points. A great circle course establishes the shortest distance over the surface of the earth between any two terrestrial points.
2. grid course -- The horizontal angle measured clockwise from grid north to the course line. The course of an aircraft measured with reference to the north direction of a polar grid.
3. magnetic course - A predetermined desired magnetic track angle measured clockwise in radial arc degrees from magnetic north. The magnetic course, once determined and set, does not vary as a function of magnetic variation or aircraft direction.
4. station course -- A predetermined desired course direction to be followed (measured in degrees from station north).
5. true course/TC -- A predetermined true track angle measured clockwise, in degrees, from true north to the line representing the intended path of the aircraft.

#### course line

(1) A line of position which is parallel or approximately parallel to the track of the aircraft. (2) A line of position used to check aircraft position relative to intended course.

#### coverage

The volume of airspace in which a specific service is provided.

### crab

A correction of aircraft heading into the wind to make good a given track; correction for wind drift.

### crash

The uncontrolled contact of an aircraft with a fixed object (i.e., ground, man-made objects, etc.).

### crash locator beacon

An electronic device attached to the aircraft structure as far aft as practicable in the fuselage, or in the tail surface, in such a manner that damage to the beacon will be minimized in the event of crash impact. It may be automatically ejectable or be permanently mounted. If it is automatically ejectable it will also have provision for manual removal and operation. The beacon operates from its own power source on 121.5 MHz and/or 243 MHz, preferably on both emergency frequencies, transmitting a distinctive downward swept audio tone for homing purposes, and is designed to function without human action after an accident.

### crashworthiness

The ability of an aircraft to maintain a protective shell around the occupant(s) in conjunction with the ability to minimize injuries during the crash.

### crewmember

A person assigned to perform duty in an aircraft during flight time.

### critical

Functions or services that, if lost, would prevent the safe separation and/or control over aircraft.

1. critical altitude -- The maximum altitude at which, in standard atmosphere, it is possible to maintain, at a specified rotational speed, a specific [power or a specified manifold pressure. Unless otherwise stated, the critical altitude is the maximum altitude at which it is possible to maintain, at the maximum continuous rotational; speed, one of the following: (1) The maximum continuous power, in the case of engines for which this power rating is the same at sea level and at a rated altitude. (2) The maximum continuous rated manifold pressure, in the case of engines, the maximum

continuous power of which is governed by a constant manifold pressure.

2. critical engine -- The engine which, upon failure, would most adversely affect the performance or handling qualities of an aircraft.

### criticality

A measure of the severity of a failure in relation to required performance, hazards to material or personnel, and maintenance cost.

1. criticality code -- A code which identifies whether test equipment, used at an Airway Facility is critical or non-critical, as used to measure and evaluate key performance parameters designated in applicable maintenance technical handbooks for system certification.

### cross control

A compandor circuit arrangement in which input signals to the compressor also control the operation of the expander at the same end of the circuit.

### cross (fix) at (altitude)

Used by ATC when a specified altitude restriction at a specified fix is required

### cross (fix) at or above (altitude)

Used by ATC when an altitude restriction at a specified fix is required. It does not prohibit the aircraft from crossing the fix at a higher altitude than specified; however, the higher altitude may not be one that will violate a succeeding altitude restriction or altitude assignment. See altitude assignment, altitude restriction. (Refer to AIM)

### cross (fix) at or below (altitude)

Used by ATC when a maximum crossing altitude at a specific fix is required. It does not prohibit the aircraft from crossing the fix at a lower altitude; however, it must be at or above the minimum IFR altitude, SEE minimum IFR altitude, altitude restriction. (Refer to FAR Part 91)

### cross modulation

A type of inter-modulation of the carrier of the desired signal by an undesired signal wave.

### crosstalk

An unwanted transfer of energy from one communications channel to another channel.

1. crosstalk far-end -- Crosstalk that travels along the disturbed circuit in the direction in which the signals travel in the circuit. To determine the far-end crosstalk between two pairs, 1 and 2, signals are transmitted on pair 2 at station A, and the crosstalk level is measured on pair 2 at station B.
2. crosstalk index -- A statistically derived number that is used to relate crosstalk coupling in dBx to the grade of performance (with respect to crosstalk) to be expected from a circuit. The index depends upon the number of disturbing circuits; the activity on these circuits; and the distributing of talker volumes, losses, room noise and the listener's acuity.
3. crosstalk runaround -- Crosstalk resulting from the coupling of the high level end of one repeater to the low level end of another repeater. Often a third repeater or line is the means of coupling; therefore, runaround crosstalk may be a form of interaction crosstalk.
4. crosstalk suppression filter -- A filter, inserted in a line, that is designed to reduce crosstalk.

### cross track velocity

Velocity of an aircraft normal to the intended flight path.

### crossbar system

An automatic switching arrangement used extensively in telephone toll switching to permit x, y access and connection of any number of circuits on either a single-circuit or party-line basis.

### crosslink traffic advisory

Information concerning current relative vertical (and horizontal, if available) position sent by own aircraft to a TCAS I equipped aircraft.



1. crosslink alert -- Information contained in a short special surveillance message sent to a Mode S, non-TCAS equipped aircraft, that TCAS has generated a resolution advisory against that aircraft.

#### crosstell

A track under control of one facility, i.e., ARTS III NAS, in transfer to, although not yet accepted by, another adjacent facility and data concerning the track is being sent across to the receiving facility. See type E crosstell.

#### crosswind

(1) When used concerning the traffic pattern, the word means "crosswind leg." See traffic pattern. (2) When used concerning wind conditions, the word means a wind not parallel to the runway or the path of an aircraft. See crosswind component.

1. crosswind component -- The wind component measured in knots at 90° to the longitudinal axis of the runway.

#### cruise

Used in an ATC clearance to authorize a pilot to conduct flight at any altitude from the minimum IFR altitude up to and including the altitude specified in the clearance. The pilot may level off at any intermediate altitude within this block of airspace. Climb/descent within the block is to be made at the discretion of the pilot. However, once the pilot starts descent and verbally reports leaving an altitude in the block, he may not return to that altitude without additional ATC clearance. Further, it is approval for the pilot to proceed to and make an approach at the destination airport and can be used in conjunction with:

1. An airport clearance limit at locations with a standard/special instrument approach procedure. The FAR's require that if an instrument letdown to an airport is necessary, the pilot shall make the letdown in accordance with a standard/special instrument approach procedure for that airport, or
2. An airport clearance limit at locations that are within/below/outside controlled airspace and without a standard/special instrument approach procedure. Such a clearance is not authorization for the pilot to descend under IFR conditions below the applicable minimum IFR altitude nor does it imply that ATC is exercising control over aircraft in uncontrolled airspace;

however, it provides a means for the aircraft to proceed to destination airport, descend, and land in accordance with applicable FAR's governing VFR flight operations. Also, this provides search and rescue protection until such time as the IFR flight plan is closed. See Instrument Approach Procedure.

### cruise control

The operation of an aircraft to obtain the maximum efficiency on a particular mission (most miles per amount of fuel).

### cruising altitude

(1) A level determined by vertical measurement from mean sea level. (2) An altitude or flight level maintained during en route level flight. This is a constant altitude and should not be confused with a cruise clearance. See altitude.

1. cruising level (ICAO) -- A level maintained during a significant portion of a flight.

### cryptology

Meaning enigmatic language, it is a field that encompasses both the operations (cryptanalysis) and the science (cryptography) of encoding.

1. cryptanalysis -- The steps and operations performed in converting encrypted messages into plain text without initial knowledge of the key employed in the encryption algorithm.
2. cryptographic system -- The documents, devices, equipment and associated techniques that are used as a unit to provide a single means of encryption (enciphering or encoding).
3. cryptography -- The art or science which treats the principles, means and methods for rendering plain text unintelligible and for converting encrypted messages into intelligible form.
4. crypto-operation -- A deliberate or accidental process or act that results in a change in the integrity of the original data.

### cumulative elapsed time/CET

The time estimated to be taken by an aircraft in traveling to a fix from some preceding fix (reference fix).

### cumuliform

A term descriptive of all convective clouds exhibiting vertical development in contrast to the horizontally extended stratiform types.

### cumulonimbus

A cumuliform cloud type; it is heavy and dense, with considerable vertical extent in the form of massive towers. This form frequently exhibits tops in the shape of an anvil or massive plume. Under the base of cumulonimbus, which often are very dark, there frequently exist virga, precipitation, and low ragged clouds (scud), either merged with it or standing separately. This cloud type is frequently accompanied by lighting, thunder, and sometimes hail; occasionally producing a tornado or a waterspout. The ultimate manifestation of the growth of a cumulus cloud, occasionally extends well into the stratosphere.

### cumulonimbus mamma

A cumulonimbus cloud having hanging protuberances, like pouches, festoons, or udders, on the under side of the cloud; usually indicative of severe turbulence.

### cumulus

A cloud in the form of individual detached domes or towers which are usually dense and well defined. These clouds develop vertically in the form of rising mounds, the bulging upper part of which often resembles a cauliflower. The sunlit parts of these clouds are mostly brilliant white; their bases are relatively dark and nearly horizontal.

### cumulus fractus

See fractus.

### currency

The prescribed minimum time requirements necessary to work an ATC position of operation, independently, under general supervision.

### current route segment

(a) Based on flight plan position: That route segment which precedes the "flight plan next fix". (b) Based on track position: That route segment which precedes the "track next fix" (only meaningful for matched tracks).

### current sectorization

The arrangement of control sectors and their assigned FPA(s) resulting from the sector plan in effect plus modification via CS messages.

1. current sectorization plan -- The image of one of the adapted plans which the program is currently using for data routing, etc. It is this image which is modified by a manually entered re-sectorization message. See sectorization plan.

### cursor

A character, usually an underline or block, used to indicate a position on a video display or computer terminal.

### custodial area

An organizational subdivision of a region/center in which property is physically located and/or by which a property record is maintained.

1. custodial property record -- A record which includes all in-use personal property, capitalized or selectively managed and controlled for a custodial area.

### custodian

An individual who has possession of or is otherwise charged with the responsibility for safeguarding or accounting for classified information.

### customer provided equipment/CPE

Devices and apparatus and their associated wiring that are owned by a customer and are interconnected with telephone company equipment or lines for the telecommunications service desired.

### cutmark

A sensing mark that permits automatic cutting of microfiche from a roll of 105 mm film.

### cutover

See in service transition.

### CWP weather products

Includes alphanumeric, graphic weather products and portrayals.

### cycle/cycle time

(1) The time in which all unconditional programs will have operated at least once. (2) In TTY usage, the elapsed time for a full APULS polling sequence of a multi-station TTY circuit. In computer usage, the time in which all unconditional programs will have operated at least once.

### cyclogenesis

Any development or strengthening of cyclonic circulation in the atmosphere.

### cyclone

(1) An area of low atmospheric pressure which has a closed circulation that is cyclonic, i. e., as viewed from above, the circulation is counter clockwise in the Northern Hemisphere, clockwise in the Southern Hemisphere, undefined at the Equator. Because cyclonic circulation and relatively low atmospheric pressure usually co-exist, in common practice the term cyclone and low are used interchangeably. Also, because cyclones often are accompanied by inclement (sometimes destructive) weather, they are frequently referred to simply as storms. (2) Frequently misused to denote a tornado. (3) In the Indian Ocean, a tropical cyclone of hurricane or typhoon force.

### D-line

An adapted line segment that causes a program search for an applicable PDR when intersected by a direct route segment for a departing flight.

### D-sounding

The difference between pressure altitude and true altitude as determined at a given time in flight (true altitude minus pressure altitude).

### D-type conditioning

A performance characteristic that controls the signal to C-notched noise ratio and inter-modulation distortion. D-type conditioning may be combined with C-type conditioning.

### D-value

Departure of true altitude from pressure altitude; obtained by algebraically subtracting true altitude from pressure altitude (thus it may be plus or minus). On a constant pressure chart, the difference between actual height and standard atmospheric height of a constant pressure surface.

### daily

A scheduling term, meaning every calendar day. When used in a maintenance schedule, daily is intended to mean every calendar day for those locations staffed seven days a week. At other locations, daily is intended to mean every calendar day resident staffing is on duty, the schedule may be reduced to a minimum of three times a week, with not more than three days between successive repetitions, in the event of any emergency, and at non-resident or one-man locations.

### damping

(1) A progressive reduction of motion of a moving part. (2) Electrically, the progressive reduction of amplitude of wave motion.

### dashpot

A device used to cause damping or deceleration in a mechanism. Usually an air or oil filled cylinder with a piston having metered holes.

## data

(1) Information. (2) A general term used to denote elements of information which can be processed or produced by a computer. Data types include:

1. air traffic data -- The messages exchanged between air traffic controllers and pilots, and the data provided by/to the NAS sub-systems for the control of air traffic, but not including weather and flight plan data.
2. diagnostic and maintenance data -- Information which includes the results of diagnostic and other maintenance tests.
2. flight planning data -- The information exchanged between pilots, NAS specialists, and NAS sub-systems in the preparation and utilization of aircraft departure and arrival schedules and routes.
3. navigation and landing data -- The signals provided to aircraft avionics and pilots to enable navigation in terminal and en route areas, and assist pilots in landing procedures at airports.
4. surveillance data -- Data obtained from search radar and beacon interrogator systems indicating the position and velocity of aircraft.
5. traffic management data -- The messages exchanged between specialists and pilots, and the data provided by/to NAS sub-systems for the management of aircraft flow.
6. weather data -- The messages exchanged between NAS sub-systems, specialists, and users for the collection, distribution, and analysis of current meteorological conditions; and the preparation and distribution of meteorological forecasts to NAS users.
7. maintenance and operations support data -- The messages exchanged between the NAS sub-systems and the remote maintenance monitoring system for the monitoring and control of those sub-systems, and the information obtained for NAS specialists in management of maintenance resources.

### data-addressable device

Any physical device in a computer system uniquely addressed by control data within the message sent by an I/O instruction.

### data base

That portion of a data-processing system that consists of the permanent or semi-permanent data that is necessary to carry out the functions of the system. The data base is a logically organized collection of information where a multiple relationship exists among records and which is used in one or more related applications. Data that represent well-known physical or mathematical constants or that merely control the proper sequencing of the data processing, are also considered part of the data base. The data base is often sub-divided into two parts: static and dynamic. System parameters that are subject to only occasional manual changes (for example, geographic data, aircraft characteristics, etc.) are usually considered the static part of the data base, particularly if they are expressed in tabular form such that these data can be changed within broad limits without upsetting the proper operation of the system. Data that regularly change during operation of the system (such as radar data, controller requests, aircraft position) are considered to be the dynamic part of the data base. A data base may sometimes be referred to as a file.

1. data base management system -- A generalized software package which handles the creation and maintenance of a data base.

### data block

The symbology displayed adjacent to a tracked aircraft target on a PVD, containing aircraft position symbols, leader, velocity vector and the alphanumeric data associated with the aircraft, e.g., aircraft identification, assigned altitude, Mode C altitude, computer number, BEACON code, attention bars, and special condition indicators. See leader.

1. data block, full -- The symbology displayed adjacent to a tracked aircraft target on a PVD, containing (subject to field filtering) aircraft position symbol, leader, velocity vector and the alphanumeric data associated with the aircraft.
2. data block, limited -- A seven character block of data displayed on the R-Controller's PVD. To display uncorrelated emergency, radio failure beacon data



blocks, beacon code readout data blocks, or Mode C intruder data.

#### data conditioning

The addition of equipment to or selection of communication facilities to provide the performance characteristics required for certain types of data transmission.

#### data-dependent protection

The state that exists when computerized data is the same as that in the source documents and has not been exposed to accidental or malicious alteration or destruction.

#### data entry controls

Devices located at the Radar Controllers console which are used to enter data into the CCC. The devices include: alphanumeric keyboard, track ball, quick action keys, and category function controls.

#### data element

A basic unit of identifiable and definable information. A data element occupies the space provided by fields in a record or blocks on a form. It has an identifying name and value or values for expressing a specific fact. For example, a data element named "color of eyes" could have recorded values of "blue (a name)," "BL (an abbreviation)" or "06 (a code)." Similarly, a data element named "age of employee" could have a recorded value of "28(a numeric value)."

#### data link

(1) Any communication channel or circuit used to transmit data from a sensor to a computer, a readout device, or a storage device. (2) Electronic equipment for automatic transmission of information in digital form.

1. data link message -- There are two types of data link messages, air traffic control (ATC) and flight service (non-ATC) messages. An ATC data link message consists of information used to communicate between ATC and the pilot. Service data link message would include weather information, NOTAMs, and miscellaneous information. If ATC or service is not specified on the diagram, then the message could be one or both.
2. data link transmission -- The transmission of data link messages from the transmitter of a Mode S sensor or

transponder over a radio frequency (RF) link which uses air (free space) as the communications medium.

3. data link weather graphics products -- Weather data, to be supplied to pilots via Mode S data link upon request, that is transmitted in a graphical form (e.g., contours of turbulence based on weather radar data, synoptic maps including isobars, et al.)

#### data processing

The operation of digital or analog computers.

1. data processing activity/DPA -- A single computer which maybe composed of multiple pieces of equipment, e.g., printer, disk drive, tape drive, CPU, control unit, etc., or it could be a stand alone microcomputer.
2. data processing installation/DPI -- One or more DPA computers located in an office, division or a facility.

#### data reduction program

A computer program designed to reduce master operational recording tape data for analysis and evaluation.

#### data security

The protection of data from accidental or malicious modification, destruction or disclosure.

1. data protection engineering -- The methodology and tools used for designing and implementing data protection mechanisms.

#### data service(s) organization

An organizational element which is responsible for the design, development and/or maintenance of automated data systems. This is a relative term under which the scope and level of service may vary depending on a particular automated data system.

#### data system

A system that is designed to provide the manager of an organization/activity with the information he/she needs to keep informed of the current status of that organization/activity, to understand the implications and to make and implement appropriate planning and operating decisions. The system gathers and summarizes program, operational and aviation universe data for operational

support, analysis, management decision and control. The system includes a specific set of data, procedures, services and reports.

1. local (data) system(s) -- A management system used only for internal management by a single office, service, region or center; or a system used by a single region for operational purposes provided that the data source and dissemination is confined to the geographical jurisdiction of that region.
2. national (data) system(s) -- A system where data within the system is used in more than one office, service, region, and/or center or in more than one program. A system may also be considered national in scope if output from the system is disseminated nationally to a segment of the aviation public or other government elements or if input to the system comes from more than one office, service, region or center; national headquarters of non-governmental organizations, government agencies or segments of the public beyond the geographical boundaries of the region.
3. time sharing system -- (1) A form of automated data service in which multiple users have access to a remotely located computer through on-site terminals.  
(2) A synonym for contractual data services.

#### Data Systems Coordinator/DSC

A Data Systems Specialist/DSS designated by the Data Systems Officer to represent the AT watch supervisor in matters concerning automation.

#### data transfer channel

1. data transfer channel, low speed -- A channel capable of modulation rates up to and including 300 bits per second.
2. data transfer channel, medium speed -- A channel capable of modulation rates below 3000 but above 300 bits per second.
3. data transfer channel, high speed -- A channel capable of modulation rates above 3000 bits per second.

#### date-time group

Six digits representing the day of the month, the hour and the minute from the twenty-four hour clock, in that order (e.g., "142215"). Date-time groups have no time zone

designator and always represent Greenwich Mean Time (GMT). Some formats contain an 8 digit date-time group. The first two digits represent the day of the month, the second two digits represent the month of the year, the last 4 digits represent the hour and minutes GMT (e.g., "08091710").

#### datum

Reference to a direction, level or position from which angles, heights, depths, speeds or distances are conventionally measured.

#### day

The 24 hour period during which the earth completes one rotation on its axis.

1. civil day -- The interval of time between two successive lower transits of a meridian by the mean (or civil) sun.
2. sidereal day -- The interval of time between two successive upper transits of a meridian by the first point of Aries (23 hours 56 minutes).
3. solar day -- The interval of time between two successive lower transits of a meridian by the true (apparent) sun.

#### dBm 0

The test tone 1000 Hz power level at the OTLP.

1. dBmC 0 -- The test tone 1000 Hz power level measured at the OTLP using a "C" message weighting network.
2. dBmC 0 -- The noise power measured at the OTLP with a "C" message weighting network referenced to the reference noise power level of  $10^{-9}$  watts at 1000 Hz.

#### dead reckoning/DR

(1) A method of determining the position of an aircraft on the basis of indicated airspeed, compass heading, and the best possible estimate of wind velocity. Dead reckoning is a last resort when all other navigation methods fail. (2) Position fixing based on estimation of the distance traveled and the course followed from a known point.

1. dead reckoning position -- The position of an aircraft determined for a given time by the application of direction and speed only.

### dead-time

The time remaining in the pulse repetition frequency of a radar when no video returns are being received.

### debug

The process of identifying, locating, isolating and correcting/removing any errors, faults or malfunctions from computer equipment or mistakes from a program or routine.

### Decca navigation

A form of hyperbolic navigation in which the master station normally operates with two slave stations. This system is characterized by the use of continuous-wave signals. See Loran.

### decelerate

(1) To reduce the speed of an object. (2) Negative acceleration.

### decimal, binary coded

Describing a decimal notation in which the individual decimal digits are represented by a pattern of ones and zeros; e.g., in the 8-4-2-1 code decimal notation, the number twelve is represented as 0001 0010 for 1 and 2, respectively; whereas, in pure or straight binary notation, it is represented as 1100.

### decipher

To convert, by use of the appropriate key, enciphered text into its equivalent plain text.

### decision height/DH

The height, specified in MSL, above the highest runway elevation in the touchdown zone at which a missed approach shall be initiated if the required visual reference has not been established. This term is used only in procedures where an electronic glide slope provides the reference for descent, as in ILS or PAR. The minimum altitude to which a pilot following an ILS Instrument Approach Procedure may descend before making a decision to land or execute a missed approach procedure. See category, landing.

1. decision altitude/height (ICAO) -- A specified altitude or height (A/H) in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established. Decision altitude (DA) is referenced to mean sea level (MSL) and decision height (DH) is referenced to the threshold elevation. The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path.

#### declare

To state with emphasis that a situation exists, as in declaring the existence of an emergency event.

#### declassification

The determination that classified information no longer requires, in the interest of national security, any degree of protection against unauthorized disclosure, together with a removal or cancellation of the classification designation.

1. declassification event -- An event that eliminates the need for continued classification of information.

#### declination/dec

The angular distance to a body on the celestial sphere measured north to south through  $90^\circ$  from the celestial equator along the hour circle of the body (comparable to latitude).

#### decoder

A device or sub-system in the ground equipment that transforms the beacon or transponder reply code information into a form suitable for display or for further processing or action. Also used to denote the portion of the airborne transponder that interprets the interrogation code or mode received and instructs the transponder coder as to the type of reply to be sent.

#### de-correlated return

A return which is correlated in one scan or one operation of MRDP and then, subsequently, superseded by a lower correlation preference value/CPV return or an equal CPV return closer to the predicted track position within the

same scan or operation of MRDP (Multiple Radar Data Processing).

decrypt

To convert, as in converting from encrypted text to plain text.

deepening

A decrease in the central pressure of a pressure system; usually applied to a low rather than to a high, although technically, it is acceptable in either sense.

default

A standard value or condition under which a computer operates, unless specific instructions to do otherwise are given.

1. defaulted priorities -- The sequence of data selection priorities programmed into an automated system.

defense area

Airspace of the United States other than airspace designated as an ADIZ within which the ready control of aircraft is required in the interest of national security during an Air Defense Emergency or Defense Emergency.

defense emergency

A condition declared by the Commander of a U. S. unified or specified command (other than CINCNORAD), or by higher authority, confirming an overt attack of any type upon the United States or a major attack on U. S. forces overseas or an allied forces in any theater of operation.

Defense Visual Flight Rules/DVFR

Rules applicable to flights within an ADIZ conducted under the visual flight rules in FAR Part 91. See Air Defense Identification Zone. (Refer to FAR, Part 99)

defensive combat maneuvers/DCM

One or a combination of basic flight maneuvers calculated to provide a defensive position of advantage over another aircraft which has an offensive intent.

### defruit

Technique utilized to suppress non-synchronous beacon replies.

### degauss

(1) To apply a variable, alternating current (AC) field for the purpose of demagnetizing magnetic recording media, usually tapes. The process involves increasing the AC field gradually from zero to some maximum value and back to zero, which leaves a very low residue of magnetic induction on the media.

### degradation

A gradual deterioration in performance as a function of time.

### delay

1. filed en route delay -- Any of the following pre-planned delays at points/areas along the route of flight which require special flight plan filing and handling techniques.
1. terminal area delay - A delay within a terminal area for touch-and-go, low approach, or other terminal area activity.
2. special use airspace delay - A delay within a Military Operating Area, Restricted Area, Warning Area, or ATC Assigned Airspace.
4. aerial refuelling delay - A delay within an Aerial Refuelling Track or Anchor.

### delay area

A route segment of specified circular dimensions within which a flight will operate for a pre-determined interval of time.

### delay distortion

Between two frequencies, the difference in arrival time between signals at the two frequencies. It is the direct result of a non-linear phase-shift characteristic in the transmission medium. See envelope delay.



### delay fix

Any fix to which delay data is suffixed in Field 10 of the flight plan message. See field.

### delay indefinite (reason if known) expect further clearance (time)

Used by ATC to inform a pilot when an accurate estimate of the delay time and the reason for the delay cannot immediately be determined; e.g., a disabled aircraft on the runway, terminal or center area saturation, weather below landing minimums, etc. See expect further clearance.

### delay forecast

The forecast of expected departure delays at a particular airport or flight delays along a specific route.

### delay time/DT

(1) The amount of time that the arrival must lose to cross the meter fix at the assigned meter fix time. This is the difference between ACLT and VTA. (2) The component of downtime during which no maintenance is being accomplished on an item because of technician alert and response time, supply delay, or administrative reasons.

### delete

To erase or cancel information or a previous action, as in deleting the highlighting of an item on a display, or completely deleting a full data block.

### demarcation

A boundary used to describe a terminal strip at which connections are made between the serving company's circuits and those of the customer.

1. demarcation strip -- The terminal block where (commercial) common carrier lines terminate and user wiring begins. It is an imaginary line separating telephone company maintenance jurisdiction and user jurisdiction.

### demodulation

The process whereby a wave resulting from modulation is so operated upon that a wave is obtained having substantially the characteristics of the original modulating wave.

### density

(1) The ratio of the mass of any substance to the volume it occupies (weight per unit volume). (2) The ratio of any quantity to the volume or area it occupies, i.e., population per unit area, power density, etc. (3) The number of bits per inch/bpi which can be stored on a medium, e.g., tape or disk.

### density altitude

See altitude.

### deny

To refuse a request.

### departure center

The ARTCC having jurisdiction for the airspace that generates a flight to the delay airport.

### departure control

(1) A function of an approach control facility providing air traffic control service for departing IFR and, under certain conditions, VFR aircraft. (2) ATC operational position which is responsible for the control of departing aircraft from shortly after takeoff until their handoff to the en route system. See approach control. (Refer to AIM)

### departure list

A controller-located list of departing aircraft presented on the plan view display in tabular form.

### departure message

A message stating the time a specific aircraft departed an airport.

### departure time

The time an aircraft becomes airborne.

### depression

In meteorology, an area of low pressure; a low or trough. This is usually applied to a certain stage in the development of a tropical cyclone, to migratory lows and troughs, and to upper level lows and troughs that are only weakly developed.

### derating

The intentional reduction of stress/strength ratio in the application of an item, usually for the purpose of reducing the occurrence of stress related failures.

### derivative classification

A determination that information is in substance the same as information that is currently classified, and a designation of the level of classification.

### descent speed adjustments

Speed deceleration calculations made to determine an accurate VTA. These calculations start at the transition point and use arrival speed segments to the vertex.

### desensitization

Temporary reduction of transponder sensitivity after receipt of a signal. Used to reduce echo (multi-path) effects.

### design review

Meetings held during the design process to critically examine the product design, configuration, design documentation, test program, planning and test data.

1. critical design review/CDR -- A formal review of all accomplishments during detailed design. This may entail review of pre-released detailed design documentation; e.g., drawings and specifications, analytical and experimental verification data, long lead item procurement list, bid package plan, site and environmental impacts, final test and evaluation plan, configuration and change control procedures.
2. preliminary design review/PDR -- A formal review to determine compatibility of the selected design approach with the performance and functional requirements, to formalize the Allocation Baseline and to obtain approval for commencement to the detailed design phase.

### detect

To discern (visual or auditorial) a fact or item, usually from a display, such as an alarm indicator or the actions of an aircraft or noting the occurrence of events or situations such as pilot problems or equipment failure.

### detent

A device, usually spring loaded, such as an arm or pin or roller, used to hold a mechanism in place after it has been positioned.

### determine

To process information mentally in order to reach a decision about a situation, state of affairs, or timing of an action.

### deviation(s)

(1) The vectorial separation between a predicted track position and a primary/beacon radar datum. (2) A departure from a current clearance, such as an off course maneuver to avoid weather or turbulence. (3) Where specifically authorized in the FAR's and requested by the pilot, an ATC authorization to deviate from certain regulations. (Refer to AIM) (4) Compass error caused by the magnetism within an aircraft; the angle measured from magnetic north eastward or westward to the direction of the earth's lines of magnetic force as deflected by the aircraft's magnetism.

1. deviation/dev correction -- The correction applied to a compass reading to correct for deviation error. The numerical equivalent of deviation with the algebraic sign added to magnetic heading to obtain compass heading.

### device

An apparatus constructed or intended for a special purpose.

1. input device -- The mechanical unit designed to bring data to be processed into a computer; e.g., a card reader, a tape reader, or a keyboard.
2. output device -- The part of a machine which translates the electrical impulses representing data processed by the machine into permanent results such as printed forms, punched cards, and magnetic writing on tape.
3. device code -- The bit code for a specific input or output device. When decoded by external decoders, it generates a single device select pulse.

### dew

Water condensed onto grass and other objects near the ground, the temperature of which have fallen below the

initial dew point temperature of the surface air, but is still above freezing. Compare with frost.

#### dew point/dew point temperature

The temperature to which a sample of air must be cooled, while the mixing ratio and barometric pressure remain constant, in order to attain saturation with respect to water.

#### diagnostic program

See routine, diagnostic.

1. diagnostic computer program -- Those programs which provide a means to test, analyze and verify hardware performance.

#### dial signaling

Denotes a type of signaling in which pulse trains are transmitted to a receiving terminal to operate automatic line selection equipment. The sequence of the dial pulses is determined by an operator, but their duration is predetermined by equipment adjustments.

#### dialing

The process of addressing by either stored address push button, key-sending, or rotary dialing.

#### differential

Pertaining to, or involving, a difference. A differential current device depends upon the difference in two current values to determine its action.

#### digital

Pertaining to the utilization of discrete integral numbers in a given base to represent all the quantities that occur in a problem or a calculation. It is possible to express in digital form all information stored, transferred, or processed by a dual state condition; e.g., on-off, open-closed, and true-false.

#### digital altimeter setting

Digitally encoded pressure sensitive flight instrument setting. The altimeter setting indicates the atmospheric pressure at a specific location relative to mean sea level that is used to adjust the altimeter.

## Digital Data Communication System/DACOM

The term applicable to the solid state, medium speed digital data communication system for NAS. It is an all-inclusive term encompassing the transmission terminal equipment for installation at remote radar facilities and at ARTCCs. The equipment, when used in conjunction with voice bandwidth communication channels, will provide for transmissions of digital information from common processor equipment located at radar sites to the FAA ARTCCs and Air Defense Centers or between ARTCCs.

## digitize

To convert an analog measurement of a physical variable into a numerical value, thereby expressing the quantity in digital form.

1. digitized beacon -- Beacon data in a specific code format containing information such as target position, identification (beacon code), altitude and indication whether or not it is a reinforced beacon. If it is Mode S information, it would also contain a track report number.
2. digitized search radar -- Search radar that has been digitized into a specific code format containing position and possibly signal strength information.
3. digitized weather radar data -- Weather radar data in specific code format showing the intensity, position and possibly the types of precipitation.
4. digitized primary reports -- Encoded search radar target reports.
5. digitized winds -- Encoded wind speed and direction.

## digitizer

A device which converts an analog measurement into digital form. Synonymous with (quantizer).

## dip

To briefly lower and then raise.

1. celestial dip -- The angle of depression of the visible sea horizon due to the elevation of the eye of the observer above the level of the sea.

2. magnetic dip -- The vertical displacement of the compass needle from the horizon caused by the earth's magnetic field.

dip switch

A type of switch with two parallel rows of leads that provide connections from the circuits inside the switch to printed circuit boards or cards.

direct

(1) Straight line flight between two navigational aids, fixes, points, or any combination thereof. When used by pilots in describing off-airway routes, points defining direct route segments become compulsory reporting points unless the aircraft is under radar contact. (2) To cause a flight data display to appear at another workstation.

direct access

(1) A method of transmitting a series of digits by depressing a single button. (2) Refers to the use of Direct Access Keys to initiate and answer telephone calls at controller positions in an ARTCC. They are provided to reduce or eliminate the amount of dialing required to reach selected positions in an ARTCC. See quick access.

Direct Access Radar Channel/DARC

A backup digital radar processing system in the ARTCCs. This computer displays digitized radar and alphanumeric data blocks during periods when the primary radar display processing system is unavailable.

Direct Altitude and Identity Readout/DAIR

The DAIR System is a modification to the AN/TPX-42 Interrogator System. The Navy has two adaptations of the DAIR System -- Carrier Air Traffic Control Direct Altitude and Identification Readout System for Aircraft Carriers and Radar Air Traffic Control Facility Direct Altitude and Identity Readout System for land-based terminal operations. The DAIR detects, tracks, and predicts secondary radar aircraft targets. Targets are displayed by means of computer-generated symbols and alphanumeric characters depicting flight identification, altitude, ground speed, and flight plan data. The DAIR System is capable of interfacing with ARTCC's.

### direct course error/DICE

The difference between a flight's scheduled arrival time at a selected reference point along its assigned flight path in the Metroplex arrival sequence pattern and its arrival time at that point if it were to turn immediately onto a direct course to that point.

### direct segment

See route segment.

### directional filter

A filter that separates bands of frequencies that are traveling in opposite directions on a transmission system. The directional filters (directional separation filters) may be conventional low-pass, high-pass or band-pass filters used for this particular application.

### Direction Finder/DF/UDF/VDF/UVDF

A radio receiver equipped with a directional sensing antenna used to take bearings on a radio transmitter. Specialized radio direction finders are used in aircraft as air navigation aids. Others are ground-based, primarily to obtain a "fix" on a pilot requesting orientation assistance or to locate downed aircraft. A location "fix" is established by the intersection of two or more bearing lines plotted on a navigational chart using either two separately located Direction Finders to obtain a fix on an aircraft or by a pilot plotting the bearing indications of his DF on two separately located ground-based transmitters, both of which can be identified on a chart. UDF's receive signals in the ultra high frequency radio broadcast band; VDF's in the very high frequency band; and UVDF's in both bands. ATC provides DF service at specified air traffic control towers and flight service stations.

1. DF approach procedure -- Used under emergency conditions where another instrument approach procedure cannot be executed. DF guidance for an instrument approach is given by ATC facilities with DF capability. (Refer to AIM)
2. DF fix -- The geographical location of an aircraft obtained by one or more direction finders.
3. DF guidance/DF steer -- Headings provided to aircraft by facilities equipped with direction finding equipment. These headings, if followed, will lead the aircraft to a predetermined point such as the DF



station or an airport. DF guidance is given to aircraft in distress or to other aircraft which request the service. Practice DF guidance is provided when workload permits. (Refer to AIM)

4. direction finder service -- There are three types of direction finder service: Doppler (DOPDF) VHF/DF, and UHF/DF.

#### directives (Traffic Management)

An order to change the general or specific flow of traffic in specific airspaces in accordance with a previously negotiated strategy to enhance a change to that traffic flow.

#### disc pack

A storage device consisting of a stack of rotating magnetic discs which are used to store and recover digital data. The disc pack is used on a disc drive.

#### disclosure

The divulging of information by any means of communication of record contained in a system of records to any person or to an agency other than the individual to whom the information pertains. This includes the transfer of a record or the granting of access to a record.

#### disconnect code

(1) Dialing two digit code to disconnect two telephone circuits at the end of a conversation. (2) A functional character transmitted on teletypewriter system for disconnecting at the end of a message.

#### discontinuity

A zone with comparatively rapid transition of one or more meteorological elements.

#### Discrete Address Beacon System/DABS

A radar system which has two modes of interrogation: Spatial; where either a Mode A or C reply is requested of all aircraft in that part of the airspace, and Discrete address; where a particular aircraft (identified by a spatial interrogation) is requested to reply with altitude or other information.

1. discrete code/discrete beacon code -- As used in the Air Traffic Control Radar Beacon System/ATCRBS, any one of 4096 selectable Mode 3/A aircraft transponder codes except those ending in zero ; e.g., discrete codes: 0010, 1201, 2317, 7777; non-discrete codes 0100, 1200, 7700. Non-discrete codes are normally reserved for radar facilities that are not equipped with discrete decoding capability and for other purposes such as emergencies. There are 4032 unique codes. See non-discrete code, radar. (Refer to AIM)
2. discrete beacon code allocation -- A computer program function which automatically assigns a unique discrete beacon code to a particular flight.
3. discrete correlation -- The process whereby a discrete beacon radar datum is uniquely identified (correlated) with a track having that discrete code assigned.

#### discrete frequency

A separate radio frequency for use in direct pilot-controller communications in air traffic control which reduces frequency congestion by controlling the number of aircraft operating on a particular frequency at one time. Discrete frequencies are normally designated for each control sector in en route/terminal ATC facilities. See control sector.

#### discrimination ratio/DR

The ratio of upper test MTBF to lower test MTBF.

#### disk

A thin, flat, circular object made of any material.

1. disk, magnetic -- A storage device on which information is recorded on the magnetizable surface of a rotating disk. A magnetic disk storage system is an array of such devices, with associated reading and writing heads which are mounted on movable arms.
2. disk storage -- See storage, disk.

#### displaced threshold

A runway threshold that is located at a point on the runway other than the designated beginning of the runway. See threshold. (Refer to AIM)

## display

A presentation of information such as a projection on a screen, generation on a cathode ray tube or a printout.

1. display control(s) -- Interactive input which controls display parameters such as brightness, contrast, focus, etc., used by an operator, such as a controller or flight service specialist.
2. display management -- To inhibit/select data for display.

## Display Channel/DC

A general term for the display system, either the CDC or the DCC, which is the interface between the Radar Controller and the CCC.

1. Display Channel Complex/DCC -- The DCC is the Display Channel (DC) based upon the IBM 9020E computer.

## disposal

To discard, throw away, or otherwise complete or terminate the useful life of an item, whether such action is intentional or accidental. Therefore, disposal includes spills, leaks and other uncontrolled discharges of fuels, oils, chemicals, etc., as well as actions related to containing, transporting, destroying, degrading, decontaminating or confining such materials.

1. disposal authority -- Authorization for the destruction or other disposition of records either immediately or after a lapse of a given time period.
2. disposal schedule -- A disposal schedule describes a group of records with reference to the nature and duration of their administrative, fiscal, legal and historical value, and establishes a retention period after which the records will be destroyed.

## dissipation

The difference between the electrical input and output powers of an electronic device, manifested as heat.

1. dissipation density -- Dissipation per unit volume of equipment or per unit heat transfer area.

## distance information

Information that lets a pilot know how far, horizontally, he/she is from a NAVAID or the end of a runway.

### Distance Measuring Equipment/DME

Equipment (airborne and ground) used to measure, in nautical miles, the slant range distance of an aircraft from the DME navigational aid. See TACAN, VORTAC, Microwave Landing System.

1. DME/N -- Distance measuring equipment where the "N" stands for narrow spectrum characteristics, primarily serving operational needs of en route or traffic management advisory (TMA) navigation.
2. DME/P -- The distance measuring element of the MLS, where the "P" stands for precise distance measurement. The spectrum characteristics are those of the DME/N.
  - a. Final Approach/FA mode -- The condition of DME/P operation which supports flight operations in the final approach and runway regions.
  - b. initial approach/IA mode -- The condition of DME/P operation which supports those flight operations outside the final approach region and which is inter-operable with DME/N.
3. DME/P Accuracy standard 1 -- When considering the DME/P accuracy requirement, the operations that can be performed in the service volume of the final approach mode tend to fall into one of two groups. This has led to two accuracy standards being defined for the final approach mode. Accuracy standard 1 is the least demanding and is designed to cater for most conventional takeoff and landing (CTOL) operations.
4. DME/P Accuracy standard 2 -- When considering the DME/P accuracy requirement, the operations that can be performed in the service volume of the final approach mode tend to fall into one of two groups. This has led to two accuracy standards being defined for the final approach mode. Accuracy standard 2 gives improved accuracy that may be necessary for vertical takeoff and landing (VTOL) and short takeoff and landing (STOL).
5. DME arc -- A course, indicated as a constant DME distance, around a navigation facility which provides distance information.

6. DME distance -- The line of sight distance (slant range) from the source of the DME signal to the receiving antenna.
7. DME fix -- A geographical position determined by reference to a NAVAID which provides distance and azimuth information and defined by a specified distance in nautical miles and a radial in degrees magnetic from that aid.
8. DME interrogation -- A signal transmitted by on-board avionics which is received by DME ground equipment and retransmitted at a different frequency back to the avionics.
9. DME response -- The retransmitted signal going from the DME ground equipment back to the on board avionics.
10. DME-separation -- Spacing of aircraft in terms of distance determined by reference to distance measuring equipment.

#### Distant Early Warning Identification Zone/DEWIZ

An identification zone of defined dimensions extending upwards from the surface, in the Dew Line in Canada, and around the entire coastal area of Alaska.

#### distortion

(1) A change or alteration of normal shape. (2) Electrically, a change produced, usually unintentionally, in a waveform. For example, the effect on a teletypewriter signal caused by distributed inductance, capacitance, and resistance in a line; unbalanced voltages; ground potentials; improper relay bias and adjustment; and other causes.

1. distortion transmission impairment/D.T.I. -- The reduction of effective transmission by distortion measured in dB.

#### distress

A condition of being threatened by serious and/or imminent danger, and of requiring immediate assistance.

#### distributed ATC management

System concept based on having some separation and/or traffic management functions controlled by airborne pilots and some controlled by a ground agency.

### distribution

A measure of closeness of the grouping of other primary/beacon radar data around the "best fit" return within the large search area.

### distributor

A device used to transmit electrical pulses in a definite order to the signal line.

### disturbance

In meteorology, applied rather loosely: (1) any low pressure or cyclone, but usually one that is relatively small in size. (2) An area where weather, wind, pressure, etc., show signs of cyclonic development. (3) Any deviation in flow or pressure that is associated with a disturbed state of the weather, i. e., cloudiness and precipitation. (4) Any individual circulatory system within the primary circulation of the atmosphere.

### diurnal

Daily, especially pertaining to a cycle completed within a 24 hour period, and which recurs every 24 hours.

### dive

A steep descent with or without power at an airspeed greater than that which is used in normal level flight.

### divergence

The condition that exists when the distribution of winds within a given area is such that there is a net horizontal flow of air outward from the region. In divergence at lower levels, the remaining deficit is compensated for by subsidence of air from aloft; consequently the air is heated and the relative humidity lowered making divergence a warming and drying process. Low level divergent regions are areas unfavorable to the occurrence of clouds and precipitation. The opposite of convergence.

### diverse route

One of two or more communications circuits that must be furnished over different or geographically varied routes to reduce the impact of outages.

### diverse vector

An instruction issued by a radar controller to fly a specific course which is not a part of a pre-determined radar pattern. Also referred to as "radar vector".

1. diverse vector area/DVA -- (1) In a radar environment, that area in which a prescribed departure route is not required as the only suitable route to avoid obstacles. (2) The area in which random radar vectors below the MVA/MIA, established in accordance with the TERPS criteria for diverse departures obstacle and terrain avoidance, may be issued to departing aircraft.

### diversity

With respect to a transponder, a method of selecting the reply transmission path based on the relative amplitude of the received interrogation signals from two or more channels with independent antennas.

### document

Any recorded information regardless of its physical form or characteristics, including, without limitation, written or printed matter, telegraphic messages, data processing cards and tapes, maps, charts, paintings, drawings, engravings, sketches, working notes and papers, reproductions of such things by any means or process and sound, voice, magnetic or electronic recordings in any form.

1. document control station -- An office or activity which controls classified documents. Normally a document control station distributes these documents to sub-accounts within the office for operational purposes and for storage.

### DOD FLIP

Department of Defense Flight Information Publications used for flight planning, en route, and terminal operations. FLIP is produced by the Defense Mapping Agency for world-wide use. United States Government Flight Information Publications (en route charts and instrument approach procedure charts) are incorporated in DOD FLIP for use in the National Airspace System.

### dog leg

A route containing a major alteration of course (as opposed to a straight line course).

### doldrums

The equatorial belt of calm or light and variable winds between the two tradewind belts. Compare intertropical convergence zone.

### dormant flight plan

Flights of which the system has knowledge, but which are residing in bulk storage and not available for immediate program operation.

### dose

The amount of radiation delivered to a specific area or volume or to the whole body.

1. dose rate -- Radiation dose delivered per unit of time.

### double-walled tank

A container with two complete shells which provides both primary and secondary containment. The outer shell must provide structural support and must be constructed primarily of non-earthen materials including, but not limited to steel a Fiberglass Reinforced Plastic/FRP.

### down draft

A relatively small scale downward current of air; often observed on the lee side of large objects restricting the smooth flow of the air or in precipitation areas in or near cumuliiform clouds.

### down link

A signal propagated from a transponder, i.e., an aircraft-to-ground data link.

### downtime

The period of time during which an item is not in a condition to perform its intended function.

### downwash

The downward thrust imparted on the air to provide lift for an airplane.

### downwind leg

See traffic pattern.



### downgrade

A determination that classified information requires, in the interests of national security, a lower degree of protection against unauthorized disclosure than currently provided, together with a changing of the classification designation to reflect the lower degree of protection.

### drag

A force opposing the motion of an airplane through the air.

1. drag chute -- A parachute device installed on certain aircraft which is deployed on landing roll to assist in deceleration of the aircraft.

### draglink

A specific lever used in the perforator and re-perforator. It has a fixed pivot point at one end; the other end is used to limit the travel of a toggle link to one plane of movement.

### drawings

The blueprints, schematics or other detailed representations associated with construction and installation of a facility, excluding those representations contained in a manufacturer's instruction books.

### drift

The rate of lateral displacement of the aircraft by wind, generally expressed in degrees.

1. drift angle/DA -- The angle between true heading and track (or true course), expressed as degrees right or left according to the way the aircraft has drifted.
2. drift correction/dc -- Correction for drift, expressed in degrees (plus or minus), and applied to true course to obtain true heading.
3. double drift/DD -- A method of determining the wind by observing drift on an initial true heading and two other true headings which are flown in a specific pattern. Also called multiple drift.
4. driftmeter -- An instrument used for measuring drift.

### drifting snow

A type of hydrometeor composed of snow particles picked up from the surface, but carried to a height of less than six feet.

### drizzle

A form of precipitation. Very small water drops that appear to float with the air currents while falling in an irregular path (unlike rain, which falls in a comparatively straight path, and unlike fog droplets which remain suspended in the air).

### drop

(1) A station which is neither a circuit terminal nor an extension station. If there are two or more stations on a premise, which is not a circuit terminal, one of these is the drop and main station and the others are extension stations. (2) Any TTY device on a TTY loop.

1. drop channel -- With respect to communications, a type of operation where one or more channels of a multi-channel system are terminated (dropped) at some point intermediate between the end terminals of the system.
2. drop repeater -- A communications device which is provided with the necessary equipment for local termination (dropping) of one or more channels.

### dropout(s)

Large reductions in channel gain. They are characterized by the length of time channel gain goes below some threshold and remains below the threshold, the number of occurrences in a fixed period of time, and their time variability.

### dropsonde

A radiosonde dropped by parachute from an aircraft to obtain soundings (measurements) of the atmosphere below.

### drum

A metal cylinder, such as the one around which a wire rope is wound. Another application is in clutches when the shoes contact the inside walls of a cylinder.

1. magnetic drum -- A cylinder having a surface coating of magnetic material, which stores binary information by the orientation of magnetic dipoles near or on its

surface. Since the drum is rotated at a uniform rate, the information stored is periodically available as a given portion as the surface moves past one or more flux detecting devices (called 'heads') located near the surface of the drum.

dry adiabatic lapse rate

The rate of decrease of temperature with height when unsaturated air is lifted adiabatically (due to expansion as it is lifted to lower pressure). See adiabatic process.

dry bulb

A name given to an ordinary thermometer used to determine temperature of the air; also used as a contraction for dry bulb temperature. Compare wet bulb.

1. dry bulb temperature -- The temperature of the air.

dump

To transfer all or part of the contents of one section of a computer memory into another section or type of storage.

dunnage

Boards, blocks or metal bracing used to support supplies, to protect them from damage or for convenience in handling.

duplex

Pertaining to a twin, a pair or a two-in-one situation; e.g., a channel providing simultaneous transmission in both directions or a second set of equipment to be used in event of the failure of the primary or either devices.

1. duplex operation -- The operation of associated transmitting and receiving apparatus at one location in conjunction with associated transmitting and receiving equipment at another location, in which the processes of transmission and reception are simultaneous. When used on a carrier circuit, duplex operation requires a frequency band for each direction of transmission.

dust

A type of lithometeor composed of small earthen particles suspended in the atmosphere.

dust devil

A small, vigorous whirlwind, usually of short duration, rendered visible by dust, sand, and debris picked up from the ground.

dust storm/duster/black blizzard

An unusual, frequently severe weather condition characterized by strong winds and dust filled air over an extensive area.

dynamic

Subject to change. Data is considered to be dynamic when it can be changed during system operation.

1. dynamic range -- The ratio between the overload level and the minimum triggering level in a transponder.
2. dynamic simulation/DYSIM -- A simulation of air traffic using live or recorded data used for training air traffic controllers.

### east terminal

Conventions have been established in order to minimize interference between operating companies. For this reason, the "east" terminal of a carrier system must be so arranged that the frequency allocation of the out-going and in-coming channels correspond to the established pattern. It is important that such conventions be respected so as to guard against possible future conflict. Geographically, an "east" terminal is usually located at the east or north end of a circuit.

### eavesdropping

The unauthorized interception of information-bearing emanations through the use of methods other than wiretapping.

### EBCDIC

See code(s).

### eccentric

A device which has its center of movement located away from its physical center.

1. eccentric stud/screw -- A machine screw or bolt having a smooth surface between the head and the threads. The threaded portion has its center offset from the center line of the smooth portion. Frequently used to adjust the position of a member, having a slot into which the eccentric stud is inserted, by rotating the stud as needed.

### echo

- (1) In radar, the energy reflected or scattered by a target.
- (2) Signal reflected from a distant termination because of impedance mismatch at the termination.
- (3) The radar scope presentation of the return from a target.

### ecliptic

The great circle on the celestial sphere along which the apparent sun, by reason of the earth's annual revolution, appears to move. The plane of the ecliptic is tilted to the plane of the equator at an angle of  $23^{\circ} 27'$ .

### eddy

A local irregularity of wind in a larger scale wind flow. Small scale eddies produce turbulent conditions.

### effective air path/EAP

A straight line on a navigation chart connecting two air positions, commonly used between the air position of two pressure soundings to determine effective true airspeed between two soundings.

1. effective air distance/EAD -- The distance measured along the effective air path.
2. effective true airspeed/ETAS -- The effective air distance divided by the elapsed time between two pressure soundings.

### egress point

The geographical point at which an airborne refueling track terminates.

### EIA RS-232

An Electronic Industries Association/EIA specification concerning the voltage interface requirements between data handling terminal equipment and data communication channel equipment. The standard defines a means of exchanging control signals and serial binary data signals between terminal and communications equipment. Letter suffixes indicate the latest edition.

### eight hour(s)

A scheduling term, meaning three times each calendar day, once each shift or watch, and at approximately eight hour intervals.

### eight level (code)

(1) A code used for data transmission having seven intelligence bits, one parity bit, one start bit and two stop bits. The ASCII (or USASCII) is an example of this code. (2) Any teletypewriter code which utilizes eight impulses for describing a character.

### electromagnetic emanations

Signals transmitted as radiation through the air and through conductors.

1. electromagnetic spectrum -- A graphical representation of radiant energy in an orderly arrangement according to its wave length or frequency.

#### electronic counter measures/ECM

Electronic radiation or chaff dispensing activities with the object of impairing the use of electronic devices, equipment, systems or with the intent to mislead (electronic deception) the user in the interpretation or use of information by his/her electronic system.

1. electronic counter counter measures/ECCM -- Actions taken to insure effective use of the electro-magnetic spectrum despite the employment of ECM. Includes the use of ECCM receivers/videos such as DICKE-FIX, DICKE-FIX, Cascade Log, Log FTC, etc., which may effectively reduce the radar degradation induced by certain types of ECM.

#### element

(1) One of the constituent parts of anything. An element, in fact, may be a part, a sub-assembly, an assembly, a unit, a set, etc. (2) A part of a National Airspace System sub-system; examples are the compute element and storage element in the CCC. (3) A term used for equipment in a computer system, for example, a computer element, a storage element, an input/output element, etc.

#### elevated pole

That celestial pole which is the same side of the equinoctial as the position of the observer.

#### elevation information

- (1) Information which lets a pilot know his/her vertical position relative to a glidepath to a particular runway.
- (2) Vertical position relative to mean sea level

#### emanations

See compromising emanations, electromagnetic emanations.

1. emanation security -- The protection that results from all measures designed to deny unauthorized persons information of value that might be derived from intercept and analysis of compromising emanations.

### emergency

A distress or an urgency condition.

### emergency assistance

Assistance a controller or flight service specialist may give to a pilot in an emergency situation.

1. emergency aircraft bearing -- The direction to an aircraft, as indicated by its radio transmitter signal, from a specific Direction Finder/DF receiver.
2. emergency assistance transmission -- The transmission of emergency assistance over an RF link that uses air (free space) as the communications medium.

### emergency modification

A temporary modification installed to maintain continuity of air navigation, air traffic control, communications or support service during unusual or emergency conditions.

### Emergency Operations Facility/EOF

A secondary location intended to supplant the ARTCC during emergency or disaster situations during which the primary facility would not be available. During situations such as riots, picketing, floods, or any other situation precluding operations from the ARTCC, central flow control functions would be performed at the EOF.

### emergency information

Information transferred during an emergency that may not normally be transferred during routine operations.

### Emergency Locator Transmitter/ELT

A radio transmitter attached to the aircraft structure which operates from its own power source on 121.5 MHz and 243.0 MHz. The device aids in locating aircraft by radiating a downward sweep audio tone, 2-4 times per second. It is designed to function without human action after an accident. (Refer to FAR, Part 91, AIM)

### emergency mode

The emergency mode of operation is defined when a sub-system provides the essential functions required by that sub-system (e.g., surveillance, automatic tracking, and local flight data update). The emergency mode is intended primarily to



provide continuity to essential services during transition between operating modes.

emergency safe altitude

See minimum safe altitude.

emergency situation simulation request

A request made by a specialist from central flow for simulation processing to be performed using parameters that set up specific simulated emergencies. See Central Flow processing parameters.

1. emergency situation simulation result -- The results of a central flow emergency situation simulation.

emulate

To equal or approach equality. For example, a 1410 emulator will give essentially exactly equivalent results to the 1410 computer.

en route

One of three phases of flight services (terminal, en route, oceanic). En route service is provided outside of terminal airspace and is exclusive of oceanic control.

1. en route air traffic control service -- Air traffic control service provided aircraft on an IFR flight plan, generally be centers, when these aircraft are operating between departure and destination terminal areas.
2. en route decent -- Descent from the en route cruising altitude which takes place along the route of the flight.
3. en route flight advisory service/flight watch -- A service specifically designed to provide, upon pilot request, timely weather information pertinent to his type of flight, and altitude. The FSS's providing this service are listed in the Airport/Facility Directory. (Refer to AIM)

En Route Automated Radar Tracking System/EARTS

An automated radar and radar beacon tracking system. Its functional capabilities and design are essentially the same as the terminal ARTS IIIA system except for the EARTS capability of employing both short-range (ASR) and long-

range (ARSR) radars, use of full digital radar displays, and fail-safe design. See Automated Radar Terminal Systems/ARTS.

#### En Route Minimum Safe Altitude Warning/EMSAW

A function of the NAS Stage A en route computer that aids the controller by alerting him when a tracked aircraft is below or predicted by the computer to go below a predetermined minimum IFR altitude (MIA).

#### encipher

To convert plain text into unintelligible form by means of a cipher system.

#### encode

To convert plain text into unintelligible form by means of a code system.

#### encrypt

To convert plain text into unintelligible form by means of a cryptographic system.

1. encryption -- A set of mathematically expressed rules for rendering information unintelligible by effecting a series of transformations through the use of variable elements controlled by the application of a key to the normal representation of the information. Synonymous with privacy transformation.
2. end-to-end encryption -- Encryption of information at the origin within a communications network and postponing decryption to the final destination point.

#### end distortion

An abnormal type of distortion that either adds to or subtracts from the trailing edge of the numbered marking pulses.

#### end exercise point/EEP

The point at which an aircraft is no longer classified as faker. Ground target, bomb release line, or final neutralization in the strike route portion of the mission, as appropriate.

### end item

Descriptive designation for a deliverable item of hardware software or system documentation at the level of assembly that requires management control and accountability, and which is included in approved baseline.

### End-of-Message code/EOM

A TTY code which informs the receiving station that the message is finished or has been received in its entirety. The code turns off equipment at the receiving station, isolating it from the line until it is properly selected again.

1. end-of-line code -- This TTY code terminates intervening lines of a multi-line message.

### energy audit

A determination of the energy consumption characteristics of an existing building, including the size, type, rate of energy consumption and major energy using system(s) of that building, and the climate characterizing the region where the building is located.

### enter

To insert data or text into a computer system.

1. enter key -- A key located on a keypack or keyboard used to enter messages into the computer.

### entered message

Messages input by an operator into a piece of equipment.

### entrapment

The deliberate planting of apparent flaws in a system for the purpose of detecting attempted penetrations or confusing an intruder about which flaws to exploit.

### entry

See between-the-lines entry, piggy back entry.

### entry, keyboard

(1) An element of information manually inserted usually via a set of switches or marked punch levers, called keys, into an automatic data processing system; (2) a medium as above

for achieving access to or entrance into an automatic data processing system.

entry point

A point which denotes the beginning of a Low Altitude Route.

envelope delay

The derivative of the phase shift characteristics with respect to frequency. It is measured by transmitting a narrow-band signal at the frequencies of interest and using the same reference at the receiver.

1. envelope delay distortion -- The maximum difference, in microseconds, of the envelope delay characteristic between any two specified frequencies. (True delay distortion, as determined from the phase characteristic, is often confused with envelope delay distortion, as determined from the envelope delay characteristic.

environment

The aggregate of all the external conditions and influences affecting the life and development of a product.

Environmental Assessment/EA

A concise public document for which a Federal agency is responsible, which serves to briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. The purpose of the assessment is to delineate the environmental impacts and alternatives of a proposed action.

1. Environmental Impact Statement/EIS Final Environmental Impact Statement -- A document which reflects a final evaluation of the environmental impact of a proposed action.
2. Draft Environmental Impact Statement/DEIS -- A document which reflects an initial evaluation of the environmental impact of a proposed action. The agency makes its own evaluation and assumes responsibility for the DEIS. This document is distributed to appropriate governmental agencies for comment and is made available to the public.
3. Findings Of No Significant Impact/FONSI -- A document which briefly presents the reasons why an action, not

otherwise excluded, will not have a significant effect on the human environment and for which an EIS therefore will not be prepared.

#### envelope delay

The derivative of the phase-shift characteristic with respect to frequency. It is measured by transmitting a narrow-band signal at the frequencies of interest and using the same reference at the receiver.

1. envelope delay distortion -- The maximum difference, in microseconds, of the envelope delay characteristics between any two specified frequencies. True delay distortion, as determined from the phase characteristics, is often confused with envelope delay distortion, as determined from the envelope delay characteristic. It is not directly related to delay distortion.

#### epoch year variation

The magnetic variation at a location, determined from an authoritative epoch year description of the earth's magnetic field. The earth's magnetic field is generally redefined and charted every five years.

#### equal altitude

See circle(s).

#### equalization

A process by means of which attenuation is rendered essentially constant over a band of frequencies, even though the circuits or transmission medium has losses that vary with frequency. Equalization is usually accomplished by LCR networks that introduce attenuation inversely proportional to the attenuation characteristics of the equipment or circuit.

1. equalizer -- (1) An electrical network in which attenuation (or gain) varies with frequency and is used to provide equalization. (2) A device used to obtain equalization.
2. equalizing pulses -- Electronic pulses at twice the line frequency occurring just before and after the vertical synchronizing pulse in a standard television signal.

### equation of time

The amount of time by which the mean sun leads or lags behind the true sun at any instant. The difference between mean and apparent times expressed in units of solar time with the algebraic sign, so that when added to the mean time it gives apparent time.

### equator

The great circle on the earth's surface equidistant from the poles. Latitude is measured north and south from the equator.

### equinoctial

See celestial equator.

### equinox

(1) Either of two points on the celestial sphere where the ecliptic intersects the celestial equator. (2) Either of two times during the year when the sun crosses the celestial equator and when the length of day and night are approximately equal.

1. autumnal equinox -- The point on the equinoctial when the sun, moving along the ecliptic, passes from north to south declination. This usually occurs on September 21 of each year.
2. vernal equinox -- The point on the equinoctial where the sun, moving along the ecliptic, passes from south to north declination. This usually occurs on March 21 of each year.

### equipment

One or more units and necessary assemblies, sub-assemblies and parts connected or associated together and including all necessary interconnecting cabling, hydraulic lines, accessories, etc., to perform an operational function e.g., radio receiving set, missile, radar set. Equipment is not normally a replaceable item.

1. peripheral equipment -- The auxiliary machines which may be placed under the control of the central computer. Examples of this are card readers, card punches, magnetic tape feeds and high speed printers. Peripheral equipment may be used on-line or off-line depending upon computer design, job requirements and economics.

### equipment alarm

Alarm(s) generated by a remote monitoring sub-system or other maintenance processor when certain equipment operating parameters fall outside pre-specified ranges.

### equipment component

An equipment unit subassembly, designed to provide an essential function in a unit, consisting of modules, parts and associated hardware, including the chassis.

### equipment room

The space provided a common carrier (leased communications) for the installation of distribution frames and other items of auxiliary apparatus.

### equipment status

Current values of equipment parameters being monitored by a remote monitoring sub-system or other processor. The parameters to be monitored will depend on the specific equipment. Some examples of parameters to be monitored include: alternate current, battery current, course frequency, AC voltage, RF sensitivity, audio output level, RF power, percent memo usage, throughput, temperature, etc.

1. status request -- Requests made by a processor or an operator for equipment status.

### equipment test configuration data

Information showing the specific equipment configuration for any given test.

### equivalent airspeed

The calibrated airspeed of an aircraft corrected for adiabatic compressible flow for the particular altitude. Equivalent airspeed is equal to calibrated airspeed in standard atmosphere at sea level.

### erase

As concerns a computer, to replace all the binary digits in a storage device by binary zeros.

## error

An error may be defined as any character entry or the receipt of any character other than the character that should have been entered from the input message, or any machine function mistakenly initiated by the operator.

1. error environment -- All data pertinent to the identification and isolation of a fault producing hardware error.
2. error rate -- A measure of quality of circuit or equipment; the number of erroneous bits or characters in a sample, frequently taken

## essential

Functions or services that, if lost, would reduce the capability of the NAS to exercise safe separation and control over aircraft.

## established airways/routes

Preplanned and/or published airways or routes not requiring "on-the-spot" computation by the controller to determine airspace to be protected. These include:

1. designated airway -- published in the FAR's, plus any locally chartered turning-radius airspace.'
2. designated route -- published in the FAR's and its locally charted, associated, protected airspace, plus any turning-radius airspace.
3. direct route -- locally charted by a facility for sector use but not disseminated in the FAR's, and its associated, protected airspace plus any turning-radius airspace.

## established altitude

A Mode C altitude determined by the program to be a reported level flight altitude.

## established code

A single code representing data used for smoothing a particular track for a predetermined number of consecutive scans.



#### establishment personnel

Those individuals who have responsibility for the engineering, construction, installation and major modification of facilities/equipment.

#### estimated ceiling

A ceiling classification applied when the ceiling height has been estimated by the observer or has been determined by some other method; but, because of the specified limits of time, distance, or precipitation conditions, a more descriptive classification cannot be applied.

#### estimated departure clearance time/EDCT

A ground delay assigned to an aircraft arriving at an airport during an arrival flow program. EDCTs are assigned to aircraft which have not been given control departure times (CDTs) and are an average of the delays assigned through the CDTs. The runway release time assigned by the CFCF, ARTCC, or terminal facility is shown as an EDCT on the flight progress strip; i.e., EDCT 1815.

#### estimated elapsed time (ICAO)

The estimated time required to proceed from one significant point to another. See total elapsed time.

#### estimated off-block time (ICAO)

The estimated time at which the aircraft will commence movement associated with departure.

#### estimated time of arrival/ETA

The time the flight is estimated to arrive at the gate (scheduled operators) or the actual runway on times for non-scheduled operators.

#### estimated time en route/ETE

The estimated flying time from departure point to destination (lift-off to touchdown).

#### European Central Altitude Reservation Facility/EUCARF

A USAF facility established for the purpose of processing altitude reservations within their area of responsibility.

### evaluate

To examine and judge the merits of an action or alternative.

### evaluation

A test or practical demonstration of knowledge, skill and/or ability.

1. benchmark evaluation -- A mandatory ATC performance evaluation conducted at 40%, 70% and 100% of allotted training time.
2. periodic evaluation -- An optional ATC performance evaluation conducted in addition to the benchmark evaluation.
3. certification evaluation -- An ATC performance evaluation required for position certification.

### evaporation

See change of state.

### event cycle

A series of sequential steps taken to complete a program, administrative or financial function. The process is used to initiate and perform related activities, create the necessary documentation, and gather and report related.

### examiner

An employee designated, in writing, to monitor and conduct examinations.

### exception(s)

Conditions which fail to meet FAA standards of acceptability and are not waived by an approved NAS Configuration Control Decision/CCD.

1. major exception -- A condition which adversely affects the facility operation or performance and must be corrected before facility commissioning.
2. minor exception -- A condition which does not meet the major exception criteria but still fails to meet FAA standards of acceptability. Minor exceptions are corrected, when possible, with available material and manpower before a JAI is completed.

### exchange

- (1) To replace, transfer or modify personnel responsibilities/designate a controller to a position.
- (2) A unit of a common carrier (leased communications) for the administration of service in a specified geographic area.

### execute

- (1) To perform a command or run a program on a computer.
  - (2) To discharge or enact.
1. **execute missed approach** -- Instructions issued to a pilot making an instrument approach which means continue inbound to the missed approach point and execute the missed approach procedure as described on the Instrument Approach Procedure Chart or as previously assigned by ATC. The pilot may climb immediately to the altitude specified in the missed approach procedure upon making a missed approach. No turns should be initiated prior to reaching the missed approach point. When conducting an ASR or PAR approach, execute the assigned missed approach procedure immediately upon receiving instructions to "execute missed approach." (Refer to AIM)

### execution times

The total amount of time that a sub-program spends in performing its intended function. It includes the time spent performing operational programs plus the time spent performing monitor service calls. It does not include the times a sub-program spends being suspended, in idle, or waiting to be dispatched by a computer.

### executive control

A program written to regulate the various programs within a system.

### executive state

One of two generally possible states in which an AIS system may operate, and in which only certain privileged instructions may be executed; such privileged instructions may not be executed when the system is operating in the user state. Synonymous with supervisory state.

### exercise flush

The phraseology used for testing flush operations.

### exercise route

The route of flight to be flown by strike force aircraft from departure to point of recovery.

### existing safeguards

The internal control measures or procedures which are currently in place to prevent or at least minimize waste, loss, unauthorized use or misappropriation.

### exit fix

The last fix of a standard instrument departure (SID) or coded route; also the fix from which a transition is made from a SID or coded route to the transition fix.

### exit point

A point which denotes the end of a Low Altitude Route.

### expanded quota flow/EOF

A traffic management program administered by CFCF wherein aircraft are held on the ground at the departure airport when delays are projected to occur either in the en route system or at the airport of intended landing. When EOF is activated, delays are assigned through FA and/or CT processing (see definitions below) and appear as an EDCT on the controller's flight progress strip.

### expander

A part of a compandor; it is used at the receiving end of a circuit to return the compressed signal to its original form. It attenuates weak signals and amplifies strong signals.

### expansion clutch

A clutch that operates on the principle of spreading clutch shoes apart or outward to engage with the inside surface of a drum. The shoes are attached to a sleeve, while the drum is attached to a shaft which is rotating. Clutch engagement causes the sleeve to turn.

### expansion memory

Random Access Memory/RAM installed in a computer which is in addition to the base memory.

expect (altitude) at (time or fix)

Used under certain conditions to provide a pilot with an altitude to be used in the event of two-way communications failure. It also provides altitude information to assist the pilot in planning. (Refer to AIM)

expected approach clearance time/EAC

The time at which it is expected that an arriving aircraft will be cleared to begin approach for a landing.

expected departure clearance time/EDCT

The runway release time assigned to an aircraft in a controlled departure time program and shown on the flight progress strip as an EDCT.

expect further clearance (time)/EFC

The time at which it is expected that additional clearance will be issued to an aircraft.

expect further clearance via (airways, routes or fixes)

Used to inform a pilot of the routing he can expect if any part of the route beyond a short range clearance limit differs from that filed.

expedite

Used by ATC when prompt compliance is required to avoid the development of an imminent situation.

explore

To investigate systematically, perhaps by a variety of actions, such as when determining whether other controllers are receiving an aircraft transmissions.

extended over-water operation(s)

(1) With respect to aircraft , an operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline. (2) With respect to helicopters, an operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline and more than 50 nautical miles from an offshore helicopter structure.

extension service

Communication services obtained from an FAA circuit by a non-FAA user.

extension station

A communication service station in addition to the main station on the same exchange.

external airport

An airport outside the adapted airspace of a center.

external fix

A fix on an adapted route but which is not found in fix adaptation.

external load

A load that is carried, or extends, outside of the aircraft fuselage.

1. external load attaching means -- The structural components used to attach an external load to an aircraft, including external load containers, the backup structure at the attachment points, and any quick release devices used to jettison the external load.

external security audit

A security audit conducted by an organization independent of the one being audited.

external storage

Computer storage away from the computer itself but in a form usable in the computer; such as magnetic tapes, magnetic wire, punched cards, etc.

extrapolated flight plan

See flight plan extrapolation and flight plan position.

extratropical low/extratropical cyclone/extratropical storm

Any cyclone that is not a tropical cyclone, usually referring to the migratory frontal cyclones of middle and high latitudes.

eye

The roughly circular area of calm or relatively light winds and comparatively fair weather at the center of a well developed tropical cyclone. A wall cloud marks the outer boundary of the eye.

## F-time

An estimated time over a coordination fix, for a proposed departure flight plan, which is transmitted as a result of a planned shutdown action. A flight plan received with an F-Time retains the F-Time until the F designation is explicitly changed.

## FAA approved equivalent

A method for identifying, calculating, measuring, developing or preparing part or all of a noise exposure map where that method differs from the methods, specifications or criteria required by FAR Part 150.

## facility

(1) Generally, any installation of equipment designed to aid in the navigation, communication or control of air traffic. The term denotes the total electronic equipment, power generation or distribution systems and any structure used to house, support and/or protect these equipment and systems. A facility may include a number of systems, subsystems or equipment, e.g., a long range radar facility, or it may consist of only a single system, subsystem or equipment, such as an isolated Radar Microwave Link Repeater/RMRL facility. (2) Any building, installation, structure, equipment, aircraft, vehicle and/or property owned, leased, operated, or maintained to support the National Airspace System. (3) A single, physical location where business is conducted or where services or operations are performed. A number of distinctly separate functions and activities may be performed at or within a single, physical location.

1. facility general reference data record -- A form which is part of the FRDF and is used to document general facility commissioning, location and other data not recorded elsewhere in the FRDF.
2. facility master file/FMF -- The automated record or listing of facilities which are commissioned, partially commissioned, temporarily shutdown, under test or in a standby status.
3. facility reference data file/FRDF -- The reference data necessary to supply initial facility commissioning, subsequent periodic and corrective maintenance activities, technical inspections, engineering analysis, management evaluations and evaluations following aircraft accidents. A separate FRDF is



established for each facility that must be covered by a facility maintenance log.

#### facility identification

The identifier (usually three letters) of a navigation or landing facility.

1. facility identification broadcast -- An audio frequency Morse code and possibly voice transmission of a navigation facility identification code.

#### facility/service operational time

The time from facility/service restoration until the time the facility/service is released by appropriate Air Traffic/AT personnel or until the next unscheduled interruption occurs.

#### facility/service available but not in use

The period of time from when the facility/service is operationally available until it is accepted for operational use, i.e., AT decides not to use the facility/service due to existing conditions.

#### facility/service deteriorated but useable and not released by Air Traffic/AT

The time when a facility/service has deteriorated to below standards until that time when the appropriate AT personnel release the facility/service for maintenance. Certification may or may not have been partially or fully removed. Such incidents are normally reported as unscheduled interruptions at the time AT releases the facility/service for maintenance.

#### Fahrenheit temperature scale/F

A temperature scale with 32 degrees as the boiling point of pure ice and 212 degrees as the boiling point of pure water at standard sea level atmospheric pressure (29.92 inches or 1013.2 millibars).

#### fail-operational

A terms which indicates that no single failure (component or part) removes the operating capability of a system.

### fail-safe

(1) The system functional capability which provides for uninterrupted operation following component failures with remaining capacity sufficient to continue performance of all required tasks without derogation. (2) The automatic termination and protection of programs or other processing operations when a hardware or software failure is detected in a computer system. (3) A procedure whereby redundant elements of each type of equipment is installed at a facility to allow uninterrupted service whenever a single element fails.

1. fail safe operation -- A type of control that prevents improper operation of the controlled function during circuit failure.

### fail-soft

(1) The concept of providing a limited system functional capability following a system failure after the minimum fail-safe condition. System capability in which operations continue, but with some degradation in capacity, when a failure has occurred. (2) The selective termination of affected non-essential processing when a hardware or software failure is detected in a computer system.

### failure

(1) The cessation of the ability of a system or any of its elements to perform a specified function or functions. (2) Any hardware malfunction which causes a non-transient error.

1. catastrophic failure -- Failure that is both sudden and complete.
2. dependent failure -- Failure which is caused by the failure of an associated item(s).
3. independent failures -- Failure which occurs without being related to the failure of associated items; not dependent.
4. random failure -- Any failure whose cause and/or mechanism make its time of occurrence unpredictable, but which is predictable only in a probabilistic or statistical sense.

### failure access

An unauthorized and usually inadvertent access to data resulting from a hardware or software failure in a computer system.

### failure analysis

The logical, systematic examination of an item or its diagram(s) to identify and analyze the probability, causes and consequences of potential and real fixtures.

### failure control

The methodology used to detect and provide fail-safe or fail-soft recovery from hardware and software failures in a computer system.

### failure mechanism

(1) A basic physical process of change which is responsible for the observed failure mode. (2) The process of degradation or the chain of events which result in a particular failure mode.

### failure mode

A particular way in which failure occurs, independent of the reason for failure; the condition or state which is the end result of a particular failure mode.

1. failure mode effects and criticality analysis/FMECA -- Analyzing each item in the design in relation to modes of failure, probability of occurrence, and the effects of the failures on the operation of the equipment or system as a whole.

### failure rate

The number of failures of an item per unit measure of life (cycles, time, etc.). It represents a constant hazard rate during the useful life period.

### faker

A strike force aircraft simulating a hostile aircraft during an air defense exercise while in the strike route portion of the mission, i.e., IP/HHCL to ground target BRL/EEP.

1. faker monitor -- Military personnel responsible for monitoring the progress and providing safety to faker aircraft in accordance with safe intercept criteria,

beginning at the IP/HHCL and terminating at the BRL/EEP or at the point of final neutralization.

Fall wind

A cold wind blowing downslope. Fall wind differs from foehn in that the air is initially cold enough to remain relatively cold despite compressional heating during descent.

false advisory

An advisory caused by a false track or TCAS malfunction.

false track

A track created by erroneous surveillance data.

fan markers

These are two types of marker beacons: FM and LFM fan markers are keyed to indicate on which radio range course they are located.

fast file

A system whereby a pilot files a flight plan via telephone that is tape recorded and then transcribed for transmission to the appropriate air traffic facility. Locations having a fast file capability are contained in the Airport/Facilities Directory. (Refer to AIM)

fast time operation

Processing data as fast as the computer program is able to accept the inputs and make outputs without regard to the passage of real time.

fault

(1) Synonym for loophole. See failure. (2) A condition under which a malfunction occurs causing an interruption of the processor. This malfunction may have been caused by a physical breakdown or the attempted execution of an illegal function code.

1. fault detection time -- The time between the occurrence of a fault and the point at which it is recognized that the system or equipment does not respond to operational demand during the mission sequence.

2. fault localization -- A man/machine task to determine which particular major unit of equipment is a fault, by making use of malfunction symptoms, test equipment, and features built into the equipment.

#### fault tree analysis

A method for relating a process of system failure to equipment, component or materials failure modes using fault trees. A fault tree is a model that graphically and logically represents the various combinations of possible events, fault and normal, occurring in a process or system that leads to the top event. Process or normal elements may include hardware, software, human and environmental factors.

#### feathered propeller

A propeller whose blades have been rotated so that the leading and trailing edges are nearly parallel with the aircraft flight path to stop or minimize drag and engine rotation. Normally used to indicate shutdown of a reciprocating or turboprop engine due to malfunction.

#### Federal Airways

There are two categories of federal airways: High altitude and low altitude. Each Federal Airway is based on route segments that extends from one navigational aid or intersection to another navigational aid (or through several navigational aids or intersections) specified for that airway. Federal Airways normally include the primary airspace within parallel boundary lines 4 NM each side of a centerline, and a secondary area of 2 NM either side of the primary area. Each airway segment has a changeover point approximately half way between the two navigational aids which is normally less than 51 miles from either of the navigational aids defining that segment. Normally, the low altitude airways are designated from 1,200 feet above ground level up to 17,999 feet. The high altitude or jet airways are designated at or above 18,000 feet.

#### Federal building

Any building, structure or facility which is constructed, renovated, leased or purchased in whole or in part for use by the United States.

#### Federal Telecommunications System/FTS

A leased communications service for exclusive use by the U.S. Government.

### feeder fix

The fix depicted on Instrument Approach Procedure Charts which establishes the starting point of the feeder route.

### feeder route

A route depicted on instrument approach procedure charts to designate routes for aircraft to proceed from the en route structure to the initial approach fix (IAF). See Instrument Approach Procedure.

### ferry flight

A flight for the purpose of: returning an aircraft to base, delivering an aircraft from one location to another, or moving an aircraft to and from a maintenance base. Ferry flights, under certain conditions, may be conducted under terms of a special flight permit.

### fetch protection

A system-provided restriction to prevent a program from accessing data in another user's segment of storage.

### field

(1) An airport or military airfield along with any adjoining structures. (2) With respect to a video display, one of the two (or more) equal parts into which a frame is divided in interlaced scanning. (3) With respect to communications, the sub-divided portion of the message format which contains the various types of information composed within the message. (4) A group of bits in a message treated as a single unit of information. (5) Areas within a data block or input message where the different data is contained. See fixed field, variable length field.

1. field abbreviation -- The abbreviation of the field name for flight plan message fields, 02 through 11. 02-AID, 03-TYP, 04-BCN, 05-SPD, 06-FIX, 07-TIM, 08-ALT, 09-RAL, 10-RTE, 11-RMK.
2. field reference -- A general term used whenever the field number and field abbreviation are both applicable.

### field-elevation

The MSL altitude of the highest point of land on an airport.

1. field elevation pressure -- The existing atmospheric pressure in inches of mercury at the elevation of the field. Also known as station pressure.

#### figure shift

A control character in the baudot code after which characters are interpreted as belonging to the groupings containing numeric, punctuation and special symbols (upper case). A function performed by a teletypewriter, when initiated by the figures shift character (4), which causes the machine to shift from lower case (letters) to upper case (numbers, symbols, etc.).

#### file

(1) An organized collection of data stored in a form suitable for ready reference. (2) A logical grouping of records.

1. file protection -- The aggregate of all processes and procedures established in an AIS and designed to inhibit unauthorized access, contamination or elimination of a file.

#### filed

Normally used in conjunction with flight plans, meaning a flight plan has been submitted to ATC.

1. filed flight plan -- A set of characters stored as a result of initial input of an FP or SP message, in the form as received by this computer and modified as necessary by: one or more accepted Amendment (AM messages), program-inserted transitions to types 2 and 4 coded routes, SIDs and STARs or program-inserted incomplete route data. Characters entered and recognized as device control, correction, or deletion characters are not included in the filed flight route.
2. filed route -- Alphanumeric route data filed in a flight plan. The filed route contains fixes, airways, and pre-filed route identifiers.
3. filed segment -- Two fixes, filed or implied, and the route between them.

#### filling

An increase in the central pressure of a pressure system; opposite of deepening. It is more commonly applied to a low rather than a high.

### film(s)

1. Any sheet or strip of transparent plastic coated with a light-sensitive emulsion. 2. All efforts relating to the production of motion pictures, including scripts, photography, props, etc., whether for broadcasting purposes or other types of public presentation.

### filter

An impedance network with elements arranged to allow passage of certain frequencies while preventing passage of other frequencies.

### final

Commonly used to mean that an aircraft is on the final approach course or is aligned with a landing area. (See final approach course, final approach-IFR, traffic pattern, segments of an instrument approach pattern)

### final approach

1. final approach course -- A straight line extension of a localizer, a final approach radial/bearing, or a runway centerline, all without regard to distance.
2. final approach fix/FAF -- A geographic location from or over which final approach (IFR) to an airport is executed.
3. final approach - IFR -- The flight path of an aircraft which is inbound to the airport on an approved final instrument approach course, beginning at the point of interception of that course and extending to the airport or the point where circling for landing or missed approach is executed.
4. final approach - VFR -- A flight path of a landing aircraft in the direction of landing along the extended runway centerline from the base leg to the runway.
5. final approach point/FAP -- The point, applicable only to a non-precision approach with no depicted FAF (such as an on-airport VOR), where the aircraft is established inbound on the final approach course from the procedure turn and where the final approach descent may be commenced. The FAP serves as the FAF and identifies the beginning of the final approach segment. (See segments of an Instrument Approach Procedure)



### final controller

That controller providing final landing approach guidance.

### fireproof

(1) With respect to materials and parts used to confine fire in a designated fire zone, means the capability to withstand at least as well as steel in dimensions appropriate for the purpose for which they are used, the heat produced when there is a severe fire of extended duration in that zone. (2) With respect to other materials and parts, means the capacity to withstand the heat associated with fire at least as well as steel in dimensions appropriate for the purpose for which they are used.

### fire resistant

(1) With respect to sheet or structural members, means the capacity to withstand the heat associated with fire at least as well as aluminum alloy in dimensions appropriate for the purpose for which they are used. (2) With respect to fluid-carrying lines, fluid system parts, wiring, air ducts, fittings and powerplant controls, means the capacity to perform the intended function under the heat and other conditions likely to occur when there is a fire at the place concerned.

### firmware

(1) A program permanently fixed onto a memory chip (ROM), i.e., software in a hardware support. (2) A set of machine instructions which control the sequences and operation of the controller portion of a processor. The instruction code is written into nondestructive read only memory.

### first gust

The leading edge of a spreading downdraft, plow wind, from an approaching thunderstorm.

### first order message

An initial transmitted flight plan message for a given flight. See second order message.

1. first order transmission -- The initiate transfer/TI message is considered a first order message when the content of the TI message represents the initial transfer of data on this flight.

### first-line technical supervisor

An employee whose primary responsibility includes the technical supervision of journeymen technicians/mechanics, or who is a first source of technical assistance to which journeymen may turn; i.e. the technician in charge of a unit or Sector Field Office.

### five-level (code)

A code used for data transmission having five intelligence bits, one start bit and one stop bit. The latter is normally 1.42 times the length of the other bits to allow for differences in machine timing. The baudot is an example of this code.

### fix

(1) A geographical position determined by visual reference to the surface, by reference to one or more radio NAVAIDS, by celestial plotting, or by another navigational device. (2) A geographical point expressed in latitude and longitude (which are converted to system coordinates). The fix is stored and uniquely identified in adaptation. A fix is both an aid for navigation and a reference point for control purposes. (3) The geographical position of an aircraft for a specified time, established by reference to navigational aids or celestial plot.

1. fish point/gateway fix -- An oceanic reporting point used to transition from or to the North Atlantic Organized Track System and the North Pacific Composite Route System.
2. fix name -- A 2-5 alphanumeric identification of a geographical point.

### fix maneuver type

The type of maneuver, based on a flight's activity, that is assigned by the program to each converted fix in a flight plan. The following list shows fix maneuver type in decreasing order of priority. The highest applicable priority is assigned to each converted fix.

1. arrival -- The last converted fix is identified as an arrival fix if it is the last fix in the flight plan or route stage.
2. departure -- The first converted fix is identified as a departure fix if it is the first fix in the flight plan or route stage.

3. delay -- Any delay area fix group.
4. terminal -- Any Terminal area fix group.
5. en route -- Any other fix group.
6. hold -- See holding fix.

#### fix loading threshold

A predetermined saturation rate of aircraft passing a particular fix.

#### fix posting area/FPA

A volume of air space, bounded by a series of connected line segments with altitudes, which is assigned to a sector or approach control facility. The FPA is the basic unit of air space within the ARC System.

#### fix time determination/FTD

The establishment and maintenance of stored fix times for each converted fix in each flight plan in the system. This process uses speed and times filed or updated in the flight plan, geographical route and adaptation data, and stored wind data.

#### fixed field

An exact, non-variable number of characters or symbols necessary to form a specific data group. See field.

#### fixed point arithmetic

A type of computation in which fixed-point numbers are used; fixed point numbers as used in the CCC are signed integers or addresses in binary format with fixed binary point. (Contrasted with floating point arithmetic.)

#### fixed-wing special IFR operations

Aircraft operating in accordance with a waiver and a Letter Of Agreement within control zones specified in FAR 93.113 by IFR qualified pilots in IFR equipped aircraft and by pilots of agricultural and industrial aircraft.

#### flag/flag alarm

(1) A warning device incorporated in certain airborne navigation and flight instruments indicating that:

instruments are inoperative or otherwise not operating satisfactorily, or signal strength or quality of the received signal falls below acceptable values. (2) A circuit (flip-flop) that provides a signal that indicates that an input/output device is ready to receive or transmit data from or to a computer.

flame resistant

Not susceptible to combustion to the point of propagating a flame, beyond safe limits, after the ignition source is removed.

flameout

Unintended loss of combustion in turbine engines resulting in the loss of engine power.

flammable

With respect to a fluid or gas, means susceptible to igniting readily or to exploding.

flanking effect

The effect on filter characteristics of connecting additional filters in parallel.

flap extension speed

The highest speed permissible with wing flaps in a prescribed extended position.

flash resistant

Not susceptible to burning violently when ignited.

flashing

A visual signal interrupted 60 times a minute with a 50/50 on-off ratio.

FLAT

See tracking status.

flaw

Synonym for loophole. See pseudo-flaw.

## Fleet Area Control and Surveillance Facility/FACSFAC

A U.S. Navy fixed ground facility which manages offshore and inland operating areas including warning areas, restricted areas and other assigned airspace.

### flicker

In a video display, a fluttering sensation which results from the periodic fluctuation of light.

### fliden

A digital electronic device which provides for message composition, display, error correction, and automatic entry of assembled data into a central processing system. Automatically enforces character acceptability and format restriction; automatically inserts coding and parity checks.

### flight

A generic term which describes one or more aircraft whose intended flight characteristics is specified in a single flight plan. See also paired flight and unpaired flight.

### flight check

A call-sign prefix used by the FAA aircraft engaged in flight inspection/certification of navigational aids and flight procedures. The word "recorded" may be added as a suffix; e.g., "Flight Check 320 recorded" to indicate that an automated flight inspection is in progress in terminal areas. (See flight inspection/flight check)

### flight crewmember

A pilot, flight engineer or navigator assigned to duty in an aircraft during flight time.

### flight data

Flight plans, flight plan amendments and flight progress reports (including arrivals and departures where appropriate).

1. flight data/revised flight data (update) -- All data applicable to a flight including but not limited to: flight plan, flight amendments, reported altitude, track position and velocity, and time estimates.

2. flight data transmission -- The transmission of flight data over an RF link that uses air (free space) as a communications medium.

#### Flight Data Entry and Printout/FDEP

Equipment for a remote location which contains, as a minimum, a Digital Communications Control Unit (DCCU). an alphanumeric keyboard and a flight strip printer. Its interface with the Central Computer Complex is via FDEP adapters located in the PAM.

#### flight follow

To provide advice and information to assist pilots in the conduct of a flight not otherwise controlled, including the tracking of that flight on a situation display.

#### Flight following/FF

A test technique used in System Shakedown, in which the test system maintains all flight data on actual IFR air traffic in parallel with the ARTCC that has responsibility for separation of aircraft (see Radar Flight Following).

#### flight identification

A general term used to identify a flight plan (i.e., any legal format for Field 02). Examples: Aircraft Identification; Aircraft Identification plus departure point; Aircraft Identification, departure point and Computer Identification; Terminal Computer Identification.

#### flight information

See flight data.

#### flight information region/FIR

An airspace of defined dimensions within which Flight Information Service and Alerting Service are provided.

1. flight information service - A service provided for the purpose of giving advise and information useful for the safe and efficient conduct of flights.
2. alerting service - A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid and to assist such organizations as required.

### flight inspection/flight check

In-flight investigation and certification of certain operational performance characteristics of electronic and visual navigation facilities by an authorized inspector in conformance with the U. S. Standard Flight Inspection Manual.

1. Flight Inspection Field Office/FIFO and Flight Inspection Group/FIG -- These organizations conduct in-flight inspections and evaluations of all navigation and landing aids, certify, rectify or deny either limited or total use of such facilities for air navigation or landing purposes; make site surveys and determine the safety and practicability of associated flight procedures.

### flight level/FL

A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is stated in three digits that represent hundreds of feet. For example, FL 250 represents a barometric altimeter indication of 25,000 feet.

1. flight level (ICAO) -- A surface of constant atmospheric pressure which is related to a specific pressure datum, 1013.2 hPa (1013.2 mb), and is separated from other such surfaces by specific pressure intervals.

Note 1. A pressure type altimeter calibrated in accordance with the standard atmosphere: when set to a QFH altimeter setting, will indicate altitude; when set to a QFE altimeter setting, will indicate height above the QFE reference datum; and when set to a pressure of 1013.2 hPa (1013.2 mb), may be used to indicate flight levels.

Note 2. The terms **height** and **altitude**, used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.

### flight line

A term used to describe the precise movement of a civil photogrammetric aircraft along a predetermined course(s) at a predetermined altitude during the actual photographic run.

### flight management system

An aircraft on-board computerized management system which integrates vertical and lateral flight path control.

### flight match status

An internal program status whose setting (matched or unmatched) is based on the perpendicular distance from the track position to the route segment.

### flight movement data

Designates a class of input messages consisting of flight plans, flight plan modifications, progress reports, and pre-filed routes.

### flight path

A line, course, or track along which an aircraft is flying or is intended to be flown. (See track, course)

1. flight path angle -- The angle which an aircraft makes, through the air, relative to the (local) horizon. It is negative when the aircraft is descending and positive when the aircraft is climbing.

### flight plan

(1) The combination of an altitude profile with a horizontal track. (2) Specified information relating to an intended flight of an aircraft which is furnished to the appropriate airspace management agency (filed either verbally or in writing with an air traffic control facility, military base operations, or FSS). It is stored in the computer. See also paired flight plan and unpaired flight plan.

1. flight plan times -- Times to which no speed adjustments have been made.
2. flight plan activity status -- The status that is assigned by the program to a flight plan. Possible status are listed below:
  - a. active -- All flights for which an actual departure time has been entered whether the flight originates inside or outside the control area.
  - b. amendment -- Amendments include changes to route, assigned altitude, call, sign, etc.
  - c. display -- An alphanumeric plan position display based on the flight plan position and velocity.



- d. dormant -- Flights of which the system has knowledge, but which are residing in bulk storage and not available for immediate program operation.
- e. extrapolation -- A computer logical process which uses stored fix time and geographical data to determine where on its route a flight would be if it navigated perfectly according to its flight plan.
- f. inactive departure -- Flight plans for which the first converted fix is within the control area and for which either no time or an inactive time group has been included.
- g. inactive en route -- Flights for which the first converted fix is outside the control and for which only an inactive time group over the coordination fix is available.
- h. modification -- A change to flight plan storage of a more permanent nature than an update of time or a reported altitude. Modifications include changes to route, assigned altitude, call sign, etc. See update.
- i. next fix -- The first fix of the flight plan route whose computed time of arrival exceeds the present time. (This term has meaning only for active flight plans.)
- j. position -- The present position of a flight, as computed by the flight plan extrapolation process.
- k. present position -- The fix with a CTA closest to clock time or the fix at which the aircraft is holding or delaying.
- l. previous fix -- That fix in the converted route of flight for which the stored fix time is equal to or less than present time.
- m. velocity -- The speed and heading of a flight relative to the ground according to its flight plan and stored wind data. Ground velocity over a route segment is obtained from the times stored for the fixes at each end of the segment and the location of the fixes.

### flight plan aided tracking

The computer use of flight plan and flight progress data to assist the tracking of aircraft.

### flight plan position

A computer generated position based on the filed flight plan.

### flight recorder

A general term applied to any instrument or device that records information about the performance of an aircraft in flight or about conditions encountered in flight. Flight recorders may make records of airspeed, outside air temperature, vertical acceleration, engine RPM, manifold pressure, and other pertinent variables for a given flight.

1. flight recorder (ICAO) -- Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation.

### Flight Service Station/FSS

Air traffic facilities which provide pilot briefing, en route communications and VFR search and rescue services, assist lost aircraft and aircraft in emergency situations, relay ATC clearances, originate Notices to Airmen, broadcast aviation weather and NAS information, receive and process IFR flight plans and monitor radio air navigation facilities (NAVAIDs). In addition, at selected locations, FSSs provide en route flight advisory service (Flight Watch), take weather observations, issue airport advisories, and advise Customs and Immigration of transborder flights.

### Flight Standards District Office/FSDO

These organizations have the combined functions of an Air Carrier District Office and a General Aviation District Office.

### flight strip

A printed record of specific flight data relating to aircraft position and a time at specific fixes along its route. See field.

### flight technical error

The accuracy with which the pilot controls the aircraft as measured by the indicated aircraft position with respect to

the indicated command or desired position. It does not include procedural blunders.

#### flight test

A flight for the purpose of: investigating the operation/flight characteristics of an aircraft or aircraft component; or evaluating an applicant for a pilot certificate or rating.

#### flight time

The time from the moment the aircraft first moves under its own power for the purpose of flight until the moment it comes to rest at the next point of landing. Also known as block-to-block time.

#### flight visibility

The average forward horizontal distance from the cockpit of an aircraft in flight at which prominent unlighted objects may be seen and identified by day and prominent lighted objects may be seen and identified by night.

#### flight watch

A shortened term for use in air-ground contacts to identify the flight service station providing En Route Flight Advisory Service; e.g., "Oakland Flight Watch." (See En Route Flight Advisory Service)

#### floating point arithmetic

A type of computation in which floating-point numbers are used; floating-point numbers are used in the CCC consisting of two portions: the fraction (a number expressed in hexadecimal (base 16) digits) and the characteristic (a power of 16, which is to be multiplied by the fraction).

#### floppy disk

A plastic disk, coated with magnetic material and enclosed in a plastic jacket, used to store applications programs and data and to transport information from one computer to another. Floppy disks come in a variety of sizes and capacities.

#### flow-chart

A graphic representation of the major steps of work in process. The illustrative symbols may represent documents, machines, or actions taken during the process. The area of

concentration is on where, or who does what; rather than how it is to be done.

#### flow control/FC

Adjustment of traffic flow into and out of specified control areas (ARTCC's, airports, and/or between both). See Central Flow Control Facility, local control.

1. flow advisories and directives -- Advisories and directives concerning the traffic flow at a specified facility.
2. flow planning and control data -- Measured or predicted quantities of traffic times, locations of saturations, and other traffic flow data which will be used by the ATCCC and the traffic management processor in algorithms that determine projected delays, strategies, solutions to delays and specific clearances to be issued.

#### flow control display interval/FCDI

A dynamically adjustable parameter number of minutes prior to flight plan calculated time of arrival at the airport, when the flight will become eligible for metering calculations and display.

#### flow line

A streamline.

#### flow time update interval/FTUI

A parameter time in tenths of minutes. When position data from the radar tracker sub-system indicates that a time difference, for any metered aircraft, exceeds this parameter (+ or -), the metering entry for the aircraft will be updated accordingly. Time updates are applied until the aircraft's metering entry is frozen (see FCLT and MLDI) at which time further updates are suspended. Updates are for metering purposes only and do not affect the flight data processing time (FDP) data base.

#### flush

A term used to launch military aircraft in a minimum time for survival.

### flutter

The effect of a variation in the transmission characteristic of a telephone circuit caused by the action of superposed dc telegraph currents on magnetic materials associated with the circuit.

### fluttering

A visual signal interrupted 60 times a minute with a 95/5 on-off ratio.

### fly heading (degrees)

Informs the pilot of the heading he should fly. The pilot may have to turn to, or continue on, a specific compass direction in order to comply with the instructions. The pilot is expected to turn in the shorter direction to the heading unless otherwise instructed by ATC.

### focal point fix/FPF

The fix-name fix adapted to a specific fix posting area. An FPF has a special meaning for direct route processing.

### foehn

A warm, dry downslope wind; the warmth and dryness being due to adiabatic compression upon descent. It is characteristic of mountain regions. See adiabatic process, Chinook, Santa Ana.

### fog

A hydrometeor consisting of numerous minute water droplets and based at the surface. The droplets are small enough to be suspended in the earth's atmosphere indefinitely. (Unlike drizzle, it does not fall to the surface; differs from cloud only in that a cloud is not based at the surface; distinguished from haze by its wetness and gray color).

### "For Official Use Only"/FOUO information

Non-classified official information of a sensitive, proprietary or personally private nature which must be protected against unauthorized public release.

### force/quick look

To compel or produce a result on a display, as in forcing a full data block that would not otherwise be presented.

#### forced defect

The practice of inducing electrical and mechanical stresses in order to determine the maximum capability of a device so that conservative usage in subsequent applications will thereby increase its life through the derating determined by these tests.

#### forced display

Information automatically projected by a computer on a display, on the basis of programmed priorities.

#### foreign air carrier

Any person other than a citizen of the United States, who undertakes directly, by lease or other arrangement, to engage in air transportation.

#### foreign air commerce

The carriage by aircraft of persons or property for compensation or hire, or the carriage of mail by aircraft, or the operation or navigation of aircraft in the conduct or furtherance of a business or vocation, in commerce between a place in the United States and any place outside thereof; whether such commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

#### foreign air transportation

The carriage by aircraft of persons or property as a common carrier for compensation or hire, or the carriage of mail by aircraft, in commerce between a place in the United States and any place outside of the United States, whether that commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

#### foreign exchange/FX service

Service permitting connections in a telephone exchange area that is foreign to the exchange area in which the customer is located.

#### foreign government information

(1) Information provided to the United States by a foreign government or international organization of governments in the expectation, express or implied, that the information is to be kept in confidence. (2) Information produced by the United States pursuant to a written joint arrangement with a foreign government or international organization of

governments requiring that either the information or the arrangement, or both, be kept in confidence. Such a written joint arrangement may be evidenced by an exchange of letters, a memorandum of understanding or other written record.

#### foreign national

Any person not a citizen of, not a national of, nor an immigrant alien to, the United States.

#### foreign representative

A citizen or national of, or an immigrant alien to the United States who is acting as a representative, official or employee of a foreign government, firm, corporation or person.

#### format

(1) The predetermined arrangement of characters, symbols and data groups (fields) necessary to formulate a message; also an arrangement of information on a form or in storage. (2) A dimensioned layout containing requirements for size, placement and orientation of text and graphics. (3) The process of preparing and organizing the surface of a disk to accept programs and data.

#### format generator set

A Model 28 ASR set modified to include format generator and parity check features for use with automated ATC system. Used to compose and/or transmit either fixed or flexible format messages. Provides a format generator, parity check character generator and message counter, in addition to normal message composition functions. Equipped with two independent tape readers: a pivoted tape reader for on-line transmission and a hard gate reader for off-line tape preparation.

#### formation flight

More than one aircraft which, by prior arrangement between the pilots, operate as a single aircraft with regard to navigation and position reporting. Separation between aircraft within the formation is the responsibility of the flight leader and the pilots of the other aircraft in the flight. This includes transition periods when aircraft within the formation are maneuvering to attain separation from each other to effect individual control and during join-up and breakaway.

1. standard formation -- A formation in which a proximity of no more than one mile laterally or longitudinally and within 100 feet vertically from the flight leader is maintained by each wingman.
2. non-standard formation -- Formations operating under any of the following conditions. (1) When the flight leader has requested and ATC has approved other than standard formation dimensions. (2) When operating within an authorized Altitude Reservation (ALTRV) or under the provisions of a Letter of Agreement. (3) When the operations are conducted in airspace specifically designated for a special activity. Non-standard formations include:
  - a. individual flight plan formations -- Aircraft operating by prior arrangement with the FAA on the same route as a single aircraft with regard to altitude, navigation and position reporting, longitudinally contained within one minute's flying time.
  - b. cell formation -- Two or more aircraft operating on the same route, longitudinally contained within one minute's flying time, laterally contained within the route width to be protected and utilizing normally 3,000 consecutive feet of altitude.
  - c. stream formation -- Two or more aircraft or cells of aircraft operating on the same route with more than one minute but not more than fifteen minutes longitudinal spacing between aircraft (or cells), laterally contained within the route width to be protected and utilizing normally 3,000 consecutive feet of altitude.

#### formerly restricted data

Information removed from the restricted data category upon a joint determination by the Department of Energy and the Department of Defense that such information relates primarily to the military utilization of atomic weapons and that such information can be adequately safeguarded as classified defense information.

#### formulary

A technique for permitting the decision to grant or deny access dynamically at the time access is required, rather than at the time of creation of the access list.



### formulate

To mentally devise or prepare the content of a message according to a specific formula, standard, or procedure, such as an advisory or clearance.

### fortuitous

Happening by chance, accidental, not planned.

1. fortuitous distortion -- A random and intermittent form of teletypewriter distortion which results in the impulses being either shortened or lengthened. It is an intermittent distortion caused by lightning, battery fluctuations, hits on the line, power induction, etc.

### forward

To send information verbally or by machine action to another person.

### four wire circuit

A communications circuit having two pairs of wires, so arranged that communications currents are transmitted in one direction on one path and in the other direction on the other path. Capable of handling information in two directions, one pair of wires is assigned the east-west route; the other pair is assigned the west-east route. No hybrids are required for interfacing separate transmitters and receivers at each terminal (four wire line to four wire equipment). A four wire circuit may use four wires or may consist of other methods of multiplexing, such as frequency division or time division.

1. four wire terminating set -- A hybrid arrangement by which four wire circuits are terminated on a two wire basis for interconnection with two wire circuits.

### fox message

Standard message used for testing teletypewriter circuits and machines because it includes all the alphanumerics on a teletypewriter as well as most function characters. It is: "The Quick Brown Fox Jumped Over a Lazy Dog's Back 1234567890 Sending" (sending station's identification is inserted in the three blank spaces).

### fractus

Clouds in the form of irregular shreds, appearing as if torn. Applying only to stratus and cumulus, they have a

clearly ragged appearance, i.e., cumulus fractus and stratus fractus.

### frame

(1) The total area allocated for film exposure, whether or not this area is filled by the recorded image. (2) In a video display, the scanning of the picture area once. In the line-interlaced scanning pattern of two to one, a frame consists of two fields.

### framing

The process of selecting the bit groupings representing one or more characters from a continuous stream of bits.

1. framing bits -- The start and stop elements of a signaling code consisting of one character. These non-information carrying bits are used for the separation of characters in a bit stream.

### frequency

A simplex channel of air/ground communications utilizing the same frequency for transmission and reception.

1. frequency fogging -- The interchanging of the frequency allocations of carrier channels to prevent singing, to reduce crosstalk, and to correct for line slope. It is accomplished by having the modulators in a repeater translate a low frequency group to a high frequency group, and vice versa. Because of this frequency inversion process, a channel will appear in the low group for one repeater section and will then be translated to the high group for the next section. This results in nearly constant attenuation with frequency over two successive repeater sections, and eliminates the need for large slope equalization and adjustment. Also, singing and crosstalk are minimized because the high level output of a repeater is at a different frequency than the low level input to other repeaters.

### frequency division multiplex

A system of transmission in which characters or bits belonging to separate messages modulate a series of separate carriers transmitted simultaneously on a single circuit.

## Frequency Shift Keying/FSK

Two possible states (1 and 0) are transmitted as two separate frequencies.

## freeze/frozen

Terms used in referring to arrivals which have been assigned ACLT's and to the lists in which they are displayed.

1. freeze calculated landing time/FCLT -- A dynamic parameter number of minutes prior to the meter fix calculated time of arrival for each aircraft, When the TCLT is frozen and becomes an ACLT; i.e., the VTA is updated and consequently the TCLT modified as appropriate until FCLT minutes prior to meter fix calculated time of arrival at which time updating is suspended and an ACLT and a frozen meter fix crossing time (MFT) are assigned.
2. freeze speed parameter/FSPD -- A speed adapted for each aircraft to determine fast and slow aircraft. Fast aircraft freeze on parameter FCLT and slow aircraft freeze on parameter MLDI.

## freezing

See change of state.

## freezing level

A level in the atmosphere at which the temperature is 0°C (32°F).

## friction

The resistance or opposition offered to one body moving relative to another with which it is in contact.

1. friction clutch -- A clutch which depends upon the friction between two or more disks to deliver motion from one component to another. Pressure is applied to one set of the disk so that they engage with the other set; one set being driven and the other being attached to the unit to be driven.

## front

A surface, interface, or transition zone of discontinuity between two adjacent air masses of different densities. More simply, the boundary between two different air masses.

1. frontal zone -- A front or zone with a marked increase of density gradient; used to denote that fronts are not truly a "surface" of discontinuity but rather a "zone" of rapid transition of meteorological elements.

frontogenesis

The initial formation of a front or frontal zone.

frontolysis

The dissipation of a front.

frost/hoarfrost

Ice crystal deposits formed by sublimation when temperature and dew point are below freezing.

fruit

Non-synchronously-received beacon replies initiated by interrogations of other radar beacon interrogators.

FSS

See Flight Service Station.

Fuel advisory departure/FAD

Procedures to minimize engine running time for aircraft destined for an airport experiencing prolonged arrival delays.

fuel dumping

Airborne release of usable fuel. This does not include the dropping of fuel tanks. See jettisoning of external stores.

fuel siphoning/fuel venting

Unintentional release of fuel caused by overflow, puncture, loose cap, etc.

fulcrum

The support or point of support on which a lever moves.

full data block

See data block.

### full duplex

A telegraph or signaling circuit, on which information can be transmitted in two directions at the same time, with each direction independent of the other. See service, full duplex.

### full service mode

The full service mode of operation is defined when a subsystem performs all designated functions within the required response times.

### fully perforated tape

Perforated paper tape in which the perforations are complete. That is, the punch makes a complete hole in the tape (as opposed to chadless tape).

### function

The mechanical operations performed within the typing unit which result in non-printing operations such as: line feed, carriage return, letters-figure shift, signal bell, etc.

### functional computer programs

Operational computer programs for the IBM 9020E Display Channel Complex/DCC and Raytheon Display Channel/CDC.

### functional package

A coordinated subset of National Airspace System equipments, computer program functions, and operating procedures, which together constitute a complete air traffic control system. The final functional package will be the complete set of all features and functions.

### functions (category)

Specific radar controlled input actions within a category.

### funnel cloud

A tornado cloud or vortex cloud extending downward from the parent cloud but not reaching the ground.

### further information requested

A printed output message generated by the computer requesting from the operator additional information concerning the last typewriter/ teletypewriter input because

the input message contained; an unacceptable format, an unreasonable adaptation value or an illogical input.

future flight plan schedules

See flight plan.

## gain

The ratio of output to input in an electronic circuit.

1. gain hits -- Sudden uncontrolled changes in gain (or loss) of a channel. Gain hits usually last longer than impulse noise spikes. They can be characterized by the distribution of hit magnitudes in dB, duration of hits, number of occurrences in a fixed period of time, and their time variability.

## gain time control/GTC

A ground receiver circuit that provides gain reduction as a function of time.

## gamma radiation

Short wavelength electromagnetic radiation of high energy originating in atomic nuclei.

## gap

A hole, opening, or space, such as the distance between two objects or surfaces.

## garbage

Unpredictable numerical results, usually resulting either from machine switch-on, machine malfunction or machine misuse.

## garble

(1) A distorted or interrupted transmitted code sequence, which results in an unreadable copy of the transmission. (2) Superposition of a set of code pulses on either another set of code pulses or on noise, so that it cannot be deciphered. See synchronous garble.

## gate hold procedures

Procedures at selected airports to hold aircraft at the gate or other ground location whenever departure delays exceed or are anticipated to exceed 15 minutes. The sequence for departure will be maintained in accordance with initial call-up unless modified by flow control restrictions. Pilots should monitor the ground control/clearance delivery frequency for engine start-up advisories or new proposed start time if the delay changes. (See flow control)

gauge (gage)

(1) A standard used for a scale of measurement. (2) The tool so used.

geometric distortion

In a video display, any aberration which causes the reproduced picture to be geometrically dissimilar to the perspective plane projection of the original scene.

general aviation/GA

All civil aviation activity except that of air carriers certificated in accordance with FAR Part 121, 123, 127, and 135. The type of aircraft used in general aviation activities cover a wide spectrum from corporate multi-engine jet aircraft piloted by professional crews to amateur-built single engine piston aerobiotic aircraft, balloons and dirigibles.

1. general aviation (ICAO) -- All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire.
2. business transportation -- Any use of an aircraft not for compensation or hire by an individual for the transportation required by a business in which he is engaged.
3. executive transportation -- Any use of an aircraft by a corporation, company or other organization for the purpose of transporting its employees and/or property not for compensation or hire, and employing professional pilots for the operation of the aircraft.
4. personal/pleasure flying -- Any use of an aircraft for personal purposes not associated with a business or profession, and not for hire. This includes maintenance of pilot proficiency.
5. registered active general aviation aircraft -- A civil aircraft registered with the FAA that has been flown one or more hours during the previous calendar year. Excluded are aircraft owned and operated in regularly scheduled, non-scheduled, or charter service by commercial air carriers or aircraft in excess of 12,500 pounds maximum gross takeoff weight, and owned and operated by a commercial operator certificated by the FAA to engage in intrastate common carriage.



## General Aviation District Office/GADO

These offices conduct those air safety programs relating to certification, inspection, and surveillance of general aviation operators, agencies, and related airmen; aircraft airworthiness (civil aircraft except those used by scheduled and supplemental air carriers and commercial operators, weighing in excess of 12,500 lbs.); air taxi operators, aerial applicators and rotorcraft external load operators; and maintain surveillance of and conduct inspections of general aviation flight operations and maintenance to assure compliance with safety requirements.

## general control environment

Various environmental factors (such as management's attitude toward internal control, competence and integrity of personnel, delegation and communication of authority and responsibility, ADP considerations and others) that can influence the effectiveness of internal controls over program and administrative functions.

## geocentric coordinates

A coordinate system which defines the position of a point with respect to the center of the earth.

## geodesic line

A line of shortest distance between two points on any mathematically defined surface.

## geodetic coordinates

The quantities of latitude, longitude and height, which define the position of a point with respect to a geodetic datum.

## geodetic datum

The numerical or geometrical quantity or set of such quantities (mathematical model) which serves as a reference for computing other quantities in a specific geographic region such as a latitude and longitude of a point.

## geographic data

In the radar system it is the reception of radio pulses from fixed objects; for example, bridges, mountains, buildings, etc. In the display sub-system, it is locations on a display surface which indicates a fixed object or objects, that may affect air traffic control operations.

1. geographic map data -- In the NAS display system, it is static data (line and symbol) which indicates the location of airports, NAVAIDs, obstructions, airways (victor and jet), boundaries (center and sector), runway extensions, radar sites, etc. See additional airways, abbreviated airways.

#### geographical sector/GSEC

An indivisible unit of airspace, low or high altitude (or both), which is defined on the ground and which is assigned to some work sector in every sectorization plan.

#### GEOREF

An international code reference system for reporting geographical position (similar to rectangular coordinates).

#### geostrophic wind

The mathematically calculated wind which theoretically blows parallel to the contour lines, in which only pressure gradient force and Coriolis force are considered.

#### ghost

A position that is manned during simulation System Shakedown tests, whose purpose is to simulate a sector, ^RTCC, terminal, or other facility that interfaces with the sectors under test. Data is not usually taken on ghost activities because the purpose of the Ghosts is only to improve the realism of the simulation in the test sectors, and the internal operations of Ghost sectors and facilities are not usually realistic. That is, Ghosts look realistic to the test sectors, but do not look realistic to themselves or to each other.

#### glare condition

A state created by a telephone trunk being seized simultaneously by both ends.

#### glaze

A coating of ice, generally clear and smooth, formed by the freezing of supercooled water on a surface. See clear icing.

### glider

A heavier-than-air aircraft that is supported in flight by the dynamic reaction of the air against its lifting surfaces and whose free flight does not depend principally on an engine.

### glidepath

A descent profile determined for vertical guidance during a final approach.

### glideslope

Operates in the 329 to 335 MHz band. It generates a path at an angle of about 3° above the horizon by the crossover of two lobes which, like the localizer signals, are modulated at 90 or 150 Hz. The lobes are formed by an antenna array stacked on a vertical pole. Lobe patterns are the result of ground reflections that provide a virtual image of the antennas. The pole is usually located about 400 feet from the runway center and 1000 feet inside the runway threshold. See ILS. The Glide Slope provides vertical guidance for aircraft during approach and landing. The glide slope consists of the following: electronic components emitting signals which provide vertical guidance reference to airborne instruments during instrument approaches such as ILS; or visual ground aids, such as VASI, which provide vertical guidance for VFR approach or for the visual portion of an instrument approach and landing.

### glideslope/glidepath intercept altitude

The minimum altitude to intercept the glideslope/path on a precision approach. The intersection of the published intercept altitude with the glideslope/path, designated on Government charts by the lightning bolt symbol, is the precision FAF; however, when ATC directs a lower altitude, the resultant lower intercept position is then the FAF. (See Final Approach Fix, segments of an Instrument Approach Procedure)

### Global Positioning System/GPS

1. GPS coordination data -- Data transmitted from the GPS master control station to the GPS monitor to support the monitoring function. This data will include the intended GPS navigation messages for comparison with the monitored navigation signal.
2. GPS master control station -- The ground based DOD monitor and control network of GPS.

### go ahead

Proceed with your message. Not to be used for any other purpose.

### go around

Instructions for a pilot to abandon his approach to landing. Additional instructions may follow. Unless otherwise advised by ATC, a VFR aircraft or an aircraft conducting visual approach should overfly the runway while climbing to traffic pattern altitude and enter the traffic pattern via the crosswind leg. A pilot on an IFR flight plan making an instrument approach should execute the published missed approach procedure or proceed as instructed by ATC; e.g., "Go around" (additional instructions if required). (See low approach, missed approach)

### grade of service

The performance of the interconnection network(s) with respect to user requests for through-connection during peak-busy hour traffic load versus the through connections which are not successfully completed within the permissible through connection delay time(s).

### gradient

(1) A slope expressed in feet per mile, or as a ratio of the horizontal to the vertical distance. For example, 40:1 means 40 feet horizontally to 1 foot vertically. (2) In meteorology, a horizontal decrease in value per unit distance of a parameter in the direction of maximum decrease; most commonly used with pressure, temperature, and moisture.

### gradient wind

Generally accepted as the actual wind above the friction level, influenced by Coriolis force, pressure gradient, and centrifugal force.

### graphic weather data display

The display of weather products such as weather maps containing pressure centers (highs and lows), weather fronts, areas of precipitation, pressure isobars, temperatures, wind speed and direction, areas of IFR and marginal VFR, etc.

### graticule

A system of vertical and horizontal lines that is used to divide a drawing, picture, chart, etc., into smaller sections. On a map the graticule consists of the latitude and longitude lines.

### great circle

The line of intersection formed on the surface of a sphere by a plane that passes through the surface and center of a sphere. The shortest distance between two points on the surface of a sphere is along the great circle joining the two points.

### Greenwich Meridian

The prime meridian which passes through Greenwich, England, and from which longitude is measured east or west.

### grid navigation

A method of navigation using a grid overlay for direction determination.

### grivation/griv

The angle between grid north and magnetic north at any point.

### gross square feet

The sum of all heated or cooled floor area enclosed in a building, calculated from the outside dimensions, or from the centerline of common walls.

### ground clutter

A pattern produced on the radar scope by ground returns which may degrade other radar returns in the affected area. The effect of ground clutter is minimized by the use of Moving Target Indicator/MTI circuits in the radar equipment resulting in a radar presentation which displays only targets which are in motion. (See clutter)

### ground collision avoidance/GCA

Provision for both strategic conflict avoidance and tactical collision avoidance from central ground jurisdictions by command control to aircraft.

ground check

An evaluation at ground level of the radiated signal associated with a system, subsystem or equipment conducted by Airway Facilities maintenance personnel.

ground clutter

Pertaining to radar, a cluster of echoes, generally at short range, reflected from ground targets.

ground control assistance

A computer program concept which will generate an optimum path between an aircraft's position and its destination on the surface of a major airport.

ground controlled approach/GCA

An approach for landing which is largely directed by a ground controller.

ground delay

The amount of delay encountered prior to departure, usually associated with EDCT. Shown as a "G" in the remarks section of flight plan; i.e., G020.

ground derived

Information generated on the ground about an airborne aircraft. See air derived.

ground fog

In the United States, a fog that conceals less than 0.6 of the sky and is not contiguous with the base of clouds.

ground plot

A graphic representation of track and ground speed.

ground point of intercept/GPI

A point on the runway centerline at which it is assumed that a straight line extension of the glide slope intercepts the runway surface.

ground range

The horizontal distance from the subpoint of the aircraft to an object on the ground.

ground return

The reflection from the terrain as displayed on a CRT.

ground rules

Standards, conventions or practices which are recognized.

ground search radar returns

RF pulses that return to the ground search radar after being reflected off metal surfaces of aircraft and other objects on the airport surface.

ground speed/GS

The actual speed of an aircraft relative to the surface of the earth, measured in nautical miles per hour (knots).

ground target

Destruct objective of a faker aircraft.

ground visibility

Prevailing horizontal visibility near the earth's surface as reported by the National Weather Service or an accredited observer.

ground water

The water beneath the surface of the ground, consisting largely of surface water that has seeped down, and subsurface water which will flow into wells or springs.

ground wave

A radio wave that is propagated over the surface of the earth and tends to parallel the earth's surface.

group

One or more printed characters preceded and followed by a space character.

### guidance information

Navigation information displayed to a pilot showing the aircraft's position relative to a specific course, such as a final approach.

### gust

A sudden brief increase in wind; according to U. S. weather observing practice, gusts are reported when the variation in wind speed between peaks and lulls is at least 10 knots.

### gyrodyne

A rotorcraft whose rotors are normally engine-driven for takeoff, hovering and landing, and for forward flight through part of its speed range, and whose means of propulsion, consisting usually of conventional propellers, is independent of the rotor system.

### gyroplane

A rotorcraft whose rotors are not engine-driven except for initial starting, but are made to rotate by action of the air when the rotorcraft is moving; and whose means of propulsion, consisting usually of conventional propellers, is independent of the rotor system.



### hail

A form of precipitation composed of balls or irregular lumps of ice, always produced by convective clouds which are nearly always cumulonimbus.

### half-duplex

Transmission in one direction at a time over a single channel. Thus, in a half duplex telegraph system, information can be transmitted in only one direction at a time. See service, half-duplex.

### halo

A prismatically colored, or whitish circle, or arcs of a circle, with the sun or moon at its center. The coloration, if not white, is from red inside to blue outside (opposite that of a corona). It is fixed in size with an angular diameter of 22° (common) or 46° (rare), and is characteristic of clouds composed of ice crystals. It is valuable in differentiating between cirriform and forms of lower clouds.

### handoff

That action whereby identification of, radio communications with and, unless otherwise specified, control responsibility for an aircraft is transferred from one controller to another without interruption of radar surveillance.

1. handoff fix -- A predetermined geographical location over which an aircraft will transit from one facilities' area to another and for which a time estimate is transferred. (It is also the last fix for which the transmitting facility prepares a fix posting for use within its facility.)
2. handoff point/HOP -- The point with which an aircraft's position is correlated when transferring target identity during a radar handoff. When using non-radar procedures, the HOP is the point where control responsibility is transferred unless otherwise specified.

### handshaking procedure(s)

A dialogue between a user and a computer, a computer and another computer, a program and another program, for the purpose of identifying a user and authenticating his/her identity, through a sequence of questions and answers based on information either previously stored in the computer or

supplied to the computer by the initiator of dialogue.  
Synonymous with password dialogue.

#### hard copy

Printed outputs, as opposed to displays and magnetic tape outputs.

#### hard disk

A carefully machined and polished non-magnetic metal platter, coated with magnetic material, used for storage of programs and data. Hard disks may be permanently mounted inside a disk drive or may come in removable cartridges.

#### hardware

The physical equipment or devices used to perform simple or complex computer functions. This includes the mechanical, magnetic, electrical and electronic devices from which a computer is constructed (equipment). This term must be qualified by using an appropriately restrictive modifier to convey a specific identification or meaning.

1. hardware error -- Any error which has been caused by hardware malfunction.
2. hardware security -- Computer equipment features or devices used in an AIS system to preclude unauthorized access to data or system resources.

#### have numbers

Used by pilots to inform ATC that they have received runway, wind, and altimeter information only.

#### Hawaii Air Defense Sector/HADS

A geographical subdivision of the Pacific Islands Air Defense Region/PIADR.

#### hazard rate

The instantaneous failure rate at any point in time during the life cycle phases.

#### hazardous materials incident

An incident which occurs during the transportation, loading, unloading or temporary storage of a hazardous material in which: a person is killed; a person received injuries requiring hospitalization; estimated carrier or other

property damage, or both exceeds 50 thousand dollars; fire, breakage, spillage or suspected contamination occurs involving the shipment of radioactive materials; a situation exists of such a nature that, in the judgement of the carrier, that a continuing danger to life exists at the scene of the incident.

#### hazardous near miss

An occasion wherein two aircraft in flight approach within 100 feet or less with each other.

#### hazardous weather

Weather conditions which have the potential to significantly increase the likelihood of aviation accidents. Hazardous weather conditions include moderate to severe icing moderate to severe turbulence, moderate to severe precipitation, wind shear, thunderstorms, sustained high winds near the surface or widespread areas of low visibility.

1. hazardous in-flight weather advisory service/HIWAS -- A program for broadcasting hazardous weather information (AWW's, SIGMET's, Convective SIGMET's, CWA's, AIRMET's, and Urgent PIREP's) on a continuous basis over selected VOR's. (Refer to AIM)

#### haze

A type of lithometeor composed of fine dust or salt particles dispersed through a portion of the atmosphere. The particles are so small they cannot be felt or individually seen with the naked eye (as compared with the larger particles of dust), but diminish the visibility. Haze is distinguished from fog by its bluish or yellowish tinge.

#### header

The initial characters of a message designating addressee, routing, time of origination, etc. In the CDC Display System, it is the first word in a display message.

#### heading

(1) Information placed at the top of a document or file which identifies its contents. Also referred to as header or title. (2) The angular direction of the longitudinal axis of an aircraft measured clockwise from a reference point.

1. compass heading/CH -- The reading taken directly from the compass.
2. grid heading/GH -- The heading of an aircraft with reference to grid north.
3. magnetic heading/MH -- The direction toward which the longitudinal axis of the aircraft points as measured clockwise in degrees from magnetic north.
4. true heading/TH -- The direction toward which the longitudinal axis of the aircraft points as measured clockwise in degrees from true north.

#### heading jitter

The magnitude of change in successive heading changes based on scan-to-scan deviations of a single radar.

#### heat of compression error

The error caused by the increase in the indication of the free air temperature gage, due to air compression and friction on the case around the sensitive element.

#### height above airport/HAA

Indicates the height of the MDA above the published airport elevation in the touchdown zone. This is published in conjunction with straight-in minimums.

#### height above landing/HAL

The height above a designated helicopter landing area used for helicopter instrument approach procedures.

#### height above touchdown/HAT

Indicates the height of the DH or MDA above the highest elevation in the touchdown zone. This is published in conjunction with straight-in minimums. See category landing.

#### helical

(1) Spiraled; being similar to the threads of a bolt. (2) The path travelled by a point on a rotating object which is moving in a direction which is at right angle to the plane of rotation.

1. helical gear -- (1) A gear having helical teeth. (2) A gear having teeth cut at an angle other than 90°, to the plane of rotation.

### helicopter

A rotorcraft that, for its horizontal motion, depends principally on its engine-driven rotors.

### helipad

A small, designated area, usually with a prepared surface, on a heliport, airport, landing/takeoff area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters.

### heliport

An area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters and includes its buildings and facilities, if any.

### Hertz/Hz

The standard radio equivalent of frequency in cycles per second of an electromagnetic wave. Kiloherzt (kHz) is a frequency of one thousand cycles per second. Megahertz (MHz) is a frequency of one million cycles per second.

### hi-BRITE display

A plan view type electronic display of sufficient brightness for presenting radar and/or other data in a control tower cab during daylight conditions.

### high

An area of high barometric pressure, with its attendant system of winds; an anticyclone. Also known as a high pressure system.

### high altitude operations

Operations conducted at or above FL-180 (FL 240 in Alaska).

### high frequency/HF

The frequency band between 3 and 30 MHz.

1. high frequency communications/HF communications -- High radio frequencies (HF) between 3 and 30 MHz used for

air-to-ground voice communication in overseas operations.

high pass filter

A filter designed to pass all frequencies above a certain cutoff point, and attenuate all frequencies below that point.

high seas

That area of the international waters commencing 3 nautical miles from the edge of the land mass.

high speed data transfer channel

See data transfer channel, high speed.

high speed taxiway/exit/turnoff

A long radius taxiway designed and provided with lighting or marking to define the path of aircraft, travelling at high speed (up to 60 knots), from the runway center to a point on the center of the taxiway. Also referred to as long radius exit or turn-off taxiway. The high speed taxiway is designed to expedite aircraft turning off the runway after landing, thus reducing runway occupancy time.

highlight

To provide prominence to an item on a display.

hit

A momentary disturbance on a circuit. In data communication, a hit duration of less than a bit length may garble one or more characters, particularly in an asynchronous mechanical selector system.

1. hit on the line -- A momentary open circuit on a teletypewriter loop.
2. hit measurement -- Examination of a received holding tone for abrupt changes in its level of phase for an extended period. The holding tone may remain at its new level or phase or return to its original value. The dropout level is determined at the start of the measurement and remains fixed over the measurement interval.

### hold

The capability of suspending a call in progress while placing or answering another call.

### hold for release

Used by ATC to delay an aircraft for traffic management reasons; i.e., weather, traffic volume, etc. Hold for release instructions (including departure delay information) are used to inform a pilot or a controller (either directly or through an authorized relay) that a departure clearance is not valid until a release time or additional instructions have been received.

### hold list

A controller located list of holding aircraft presented on a plan view display in tabular form.

### holding

A predetermined maneuver which keeps an aircraft within a specified airspace while awaiting further clearance.

### holding fix

A fix designated as a result of a hold action having been entered for the fix. A specified fix used as a reference point in establishing and maintaining the position of an aircraft while holding.

1. holding point (ICAO) -- A specified location, identified by visual or other means, in the vicinity of which the position of an aircraft in flight is maintained in accordance with air traffic control clearances.

### home

A term which refers to the upper left corner of a video display, specifically to the first character position.

### homing

Flight towards a NAVAID, without correcting for wind, by adjusting the aircraft heading to maintain a relative bearing of zero degrees. See bearing.

1. homing (ICAO) -- The procedure of using the direction-finding equipment of one radio station with the emission of another radio station, where at least one

of the stations is mobile, and whereby the mobile station proceeds continuously towards the other station.

### horizon

The apparent intersection of the earth and the sky as seen by an observer.

1. bubble horizon -- An artificial horizon parallel to the celestial horizon, established by means of a bubble level.
2. celestial horizon -- The great circle on the celestial sphere formed by the intersection of a plane passing through the center of the earth which is parallel to the plane tangent to the earth at the observers position.
3. visible horizon -- The circle around the observer where earth and sky appear to meet. Also called natural horizon or sea horizon.

### horizontal positioning

The process by which the type box in a teletype is moved horizontally.

### host center

(1) The ARTCC facility that is responsible for arrival operations into a specific terminal. (2) A center having one or more ARTS facilities directly interfaced with the center by physical data lines.

### hot line

A dedicated line from selected positions in one ARTCC to selected positions in another ARTCC. The line, is terminated in loud speakers, to be used for immediate access for radar handoffs.

### hot spot

A part or other area or region that is abnormally or unacceptably hot. The temperature depends on the item and the application.

### hour angle

1. Greenwich hour angle/GHA -- The angular distance measured from the upper branch of the Greenwich



meridian westward through 360° to the upper branch of the hour circle passing through a point.

2. local hour angle/LHA -- The angular distance measured from the upper branch of the observers meridian westward through 360° to the upper branch of the hour circle passing through a body.
3. sidereal hour angle/SHA -- The angular distance measured from the upper branch of the hour circle of the first point of Aries westward through 360° to the upper branch of the hour circle passing through a body.

#### hour circle

See circle.

#### hover check

Used to describe when a helicopter/VTOL aircraft requires a stabilized hover to conduct a performance/power check prior to hover taxi, air taxi, or takeoff. Altitude of the hover will vary based on the purpose of the check.

#### hover taxi

Used to describe a helicopter/VTOL aircraft movement conducted above the surface and in ground effect at airspeeds less than approximately 20 knots. The actual height may vary, and some helicopters may require hover taxi above 25 feet AGL to reduce ground effect turbulence or provide clearance for cargo sling-loads. See air taxi, hover check (Refer to AIM)

#### How do you hear me?

A question relating to the quality of the transmission or to determine how well the transmission is being received.

#### humidity

A measurement of the amount of water vapor in the air relative to the total possible amount the air could hold at a particular temperature. This measurement is a percentage, with 100 percent equal to the saturation level at the current temperature.

1. mixing ratio -- The ratio by weight of the amount of water vapor in a volume of air to the amount of dry air; usually expressed as grams per kilogram (g/kg).

2. relative humidity -- The ratio of the existing amount of water vapor in the air at a given temperature to the maximum amount that could exist at that temperature; usually expressed in percent.
3. specific humidity -- The ratio by weight of water vapor in a sample of air to the combined weight of water vapor and dry air. Compare mixing ratio.

### hurricane

A tropical cyclone in the Western Hemisphere with winds in excess of 65 knots or 120 km/h.

### hybrid

A bridge-type circuit or connecting device that combines the functions of providing impedance matching between certain circuits and isolation between other circuits. A hybrid is often used to connect a four wire line to a two wire line so that both directions of transmission on the four wire line are isolated from each other, but are connected to the two wire line.

### hydrometeor

A general term for particles of liquid water or ice such as rain, fog, frost, etc., formed by modification of water vapor in the atmosphere. The term also applies to water or ice particles lifted from the earth by the wind such as sea spray or blowing snow.

### hydrometer

An instrument used for measuring the water vapor content of the air.

1. hydrograph -- The record produced by a continuous recording hygrometer.

## I say again

The message will be repeated.

## ice crystals

A type of precipitation composed of unbranched crystals in the form of needles, columns, or plates; usually having a very slight downward motion. They may fall from a cloudless sky.

## ice fog

A type of fog composed of minute suspended particles of ice. This occurs at very low temperatures, and it may cause halo phenomena.

## ice needles

A form of ice crystals.

## ice pellets

Small, transparent or translucent, round or irregularly shaped pellets of ice. They may be hard grains that rebound on striking a hard surface, or pellets of snow encased in ice.

## icing

In general, any deposit of ice forming on an object. See clear icing, rime icing, glaze.

## ident

A request for a pilot to active the aircraft transponder identification feature. This will help the controller to confirm an aircraft identity or identify an aircraft.  
(Refer to AIM)

1. "IDENT" feature -- The special feature in ATCRBS equipment and the "I/P" feature in certain SIF equipment used to distinguish one displayed select code from other codes.

## identification

The process that enables, generally by the use of unique machine-readable names, recognition of users or resources as identical to those previously described to an AIS system.

independent cooperative surveillance (secondary surveillance)

Surveillance information obtained independent of on-board navigational data but involving the retransmission of the surveillance signal by the use of a "cooperative" aircraft transponder or other device. Selected data for the aircraft, such as its identification or other device. Selected data for the aircraft, such as its identification and altitude, may be included in the transponder "reply" signal.

idle line

(1) A data transmission circuit that is in a steady-state marking condition. (2) A closed loop or circuit having normal continuous current flow for a period greater than the time required to transmit a complete character, this time being 100 milliseconds when operating at 100 words per minute.

idle thrust

The jet thrust obtained with the engine power control lever set at the stop for the least thrust position at which it can be placed.

if feasible, reduce speed to (speed)

(See speed adjustments)

if no transmission received for (time)

Used by ATC in radar approaches to prefix procedures which should be followed by the pilot in event of lost communications. See lost communications.

IFR

See instrument flight rules.

1. IFR aircraft/IFR flight -- An aircraft conducting flight in accordance with instrument flight rules.
2. IFR conditions -- Weather conditions below the minimum for flight under visual flight rules. See Instrument Meteorological Conditions.
3. IFR departure procedure -- See IFR takeoff minimums and departure procedures. (Refer to AIM)
4. IFR military training routes/IR -- Routes used by the Department of Defense and associated Reserve and Air

Guard units for the purpose of conducting low-altitude navigation and tactical training in both IFR and VFR weather conditions below 10,000 feet MSL at airspeeds in excess of 250 knots IAS.

5. IFR over-the-top -- The operation of an aircraft over-the-top of instrument meteorological conditions on an IFR flight plan when cleared by air traffic control to maintain "VFR conditions" or VFR conditions on-top."
6. IFR takeoff minimums and departure procedures -- FAR, Part 91, prescribes standard takeoff rules for certain civil users. At some airports, obstructions or other factors require the establishment of non-standard takeoff minimums, departure procedures, or both to assist pilots in avoiding obstacles during the climb to the minimum en route altitude. Those airports are listed in NOS/DOD Instrument Approach Charts (IAP's) under a section entitled "IFR Takeoff Minimums and Departure Procedures." The NOS/DOD IAP chart legend illustrates the symbol used to alert the pilot to non-standard takeoff minimums and departure procedures. When departing IFR from such airports or from any airports where there are no departure procedures, SID's, or ATC facilities available, pilots should advise ATC of any departure limitations. Controllers may query a pilot to determine acceptable departure directions, turns, or headings after takeoff. Pilots should be familiar with the departure procedures and must assure that their aircraft can meet or exceed any specified climb gradients.

### immediately

Used by ATC when such action compliance is required to avoid an imminent situation.

### immigrant alien

Any person who has been lawfully admitted into the United States under an immigration visa for permanent residence.

### impedance matching

A method of minimizing the adverse effects of junctions between dissimilar transmission lines or connections between equipment with different impedances. To eliminate reflections from an impedance mismatch between elements A and B, the input impedance of B must equal the output impedance of A. To obtain maximum power transfer from A to B, B's impedance must be the conjugate of A. This means that if A is inductive, B must be equally capacitive, or

vice versa. Various methods are used to make the impedance of dissimilar elements appear equal (a transformer for example), and the process is known as impedance matching.

#### impersonation

An attempt to gain access to a system by posing as an authorized user. Synonymous with masquerading, mimicking.

#### implied fix

An intersection that is not specifically filed in a flight plan, but is implied by a junction of two adapted routes.

#### improved side lobe suppression/ISLS

A radar system that eliminates the effects of undesired reflection over the whole beam.

#### impulse noise

Large peaks or impulses in the total noise wavefront. Impulse noise is measured with an instrument which counts impulses greater than a selected threshold value.

1. impulse noise level -- The threshold (expressed in dBrnC) at which the median count from a number of observations (each having the same specified time interval) is equal to a specific number. The median number is currently one per minute.

#### inactive flight plan

See flight plan activity status.

#### inactive sector

(1) A WSEC whose mating GSEC is now paired with some other active WSEC. (2) A sector to which no fix posting areas are currently assigned. See sector.

#### in-band signaling

The transmission of signaling tones at some frequency or frequencies within the channel normally used for voice transmission.

#### inbound fix

The last posted fix traversed by an aircraft before crossing the control area boundary to enter the control area.

1. inbound coordination fix -- The coordination fix received on an inter-facility flight plan message. For an approach control, the inbound coordination fix may be the inbound approach control boundary intercept point.

#### inbound list

A controller located list of inbound aircraft presented on a plan view display in tabular form.

#### incident

(1) A single occurrence relating to an interruption. (2) An occurrence involving the operation of one or more aircraft in which a hazard or a potential hazard to safety is involved but which is not classified as an accident due to degree of injury and/or extent of damage.

#### incinerator

An engineering device which uses controlled flame combustion to thermally degrade fuels, oils and other chemicals. Examples of such devices are rotary kilns, liquid injection incinerators, cement kilns and high temperature boilers.

#### incomplete parameter checking

A system fault which exist when all parameters have not been fully checked for correctness and consistency by the operating system, thus making the system vulnerable to penetration.

#### increase speed to (speed)

(See speed adjustment)

#### indefinite ceiling

A ceiling classification denoting vertical visibility into a surface based obscuration.

#### indent

A depression, dent or low area on a body.

#### index error

See celestial observation error.

### inertia

The opposition offered by a body to a change in its state of motion.

### indicated airspeed/IAS

The speed of an aircraft as shown on its pitot static airspeed indicator, calibrated to reflect standard atmosphere adiabatic compressible flow at sea level, uncorrected for airspeed system errors.

### indirect access

Refers to the use of a Dialing Pad in order to access another position in an ARTCC. The capability of calling a party by dialing a multi-digit telephone number.

### individual

A citizen of the United States or an alien lawfully admitted for permanent residence. A proprietorship or any collection of individuals; e.g., corporations, partnerships, etc., are not considered individuals.

### infant mortality

The initial period during which the population of an item exhibits a high but rapidly decreasing failure rate.

### in-flight weather briefing

A weather briefing that could be a continuous broadcast of a recorded route-specific weather message, or pertinent route of flight weather information transmitted from a NAS facility, flight service specialist, or, possibly, a controller to an airborne user.

1. in-flight weather briefing broadcast -- A continuous broadcast of an in-flight weather briefing using RF signals transmitted through the air (free space).
2. in-flight weather briefing transmission -- The transmission of an in-flight weather briefing over an RF link that uses air (free space) as the communications medium.
3. in-flight weather message -- Computer-generated message containing pertinent weather information for pilots flying a specific route.



## information

Knowledge that can be communicated by any means.

1. information bits -- The signal elements of a character carrying the intelligence, as contrasted with framing bits used as start-stop elements.

## information request/INREQ

(1) A request for specific information by a pilot, controller, or flight service specialist. (2) A request for information concerning an overdue VFR aircraft.

1. information request transmission -- The transmission of an information request over an RF link that uses air (free space) as the communications medium.

## information security

The result of any system of administrative policies and procedures for identifying, controlling and protecting from unauthorized disclosure, information the protection of which is authorized by executive order or statute.

## inherent

Achievable under ideal conditions, generally derived by analysis, and potentially present in the design.

1. inherent distortion -- The distortion of the display of a received radar signal caused by the design characteristics of a particular radar set.

## inhibit

(1) To prevent the occurrence of a machine action, as in inhibiting an alert function. (2) A controller action to suppress the presentation of certain information.

1. inhibit transmission -- To block transmission of information to a specific facility or FDEP position in a manner that provides notification to affected sectors/ facilities.

## initial approach

1. initial approach altitude -- The altitude (or altitudes,) prescribed for the initial approach segment of an instrument approach.

2. initial approach fix/IAF -- The fixes depicted on instrument approach procedure charts that identify the beginning of the initial approach segment(s). See fix, segments of an instrument approach procedure.
3. initial approach segment -- The segment (of a standard instrument approach procedure) between the initial approach fix and the intermediate fix or the point where the aircraft is established on the intermediate course of final approach course.

#### initial operating capability/IOC

That point during system installation when the hardware and software has been successfully merged to meet the total system requirements. IOC includes the installation and testing of systems to insure that they meet defined requirements. The IOC is considered a partial JAI where the maintenance responsibility is accepted but a period of time is set aside for verification of operational procedures, along with training, familiarization, etc.

#### initial point

A preselected geographical position which is used as a reference for the beginning of a run on a target.

1. initial point/H-hour control line/IP/HHCL -- That point at which the faker route portion of an exercise begins.

#### initial tolerance/limit

The maximum deviation from the standard value of a parameter, or the range, that was acceptable or permissible at the time of initial installation, tuneup, or construction; that will be allowable after any modification or modernization; and that is desirable after any readjustment following an out-of-tolerance/limit condition.

#### initiation

The process by which a controller or a computer associates speed and heading with radar data to form a track.

1. initiate -- To begin an action involving the concurrence of another controller/specialist, as in initiating a handoff.

#### inland SAR region

The area in which the USAF, through the Aerospace Rescue and Recovery Service (ARRS), exercises the SAR coordination

function. It includes all of the inland area within the conterminous U.S., except the waters under jurisdiction of the U.S. Coast Guard for SAR purposes. The ARRS has divided the Inland Region into three sub-regions and a rescue coordination center in each sub-region executes coordination responsibilities.

#### inner fix/IF

The first turning point along the flight path being flown by a specific arrival occurring after the firm runway schedule time for that flight has been established.

#### inner marker/IM/inner marker beacon

A marker beacon used with an ILS (CAT II) precision approach located between the middle marker and the end of the ILS runway, transmitting a radiation pattern keyed at six dots per second and indicating to the pilot, both aurally and visually, that he is at the designated decision height (DH), normally 100 feet above the touchdown zone elevation, on the ILS CAT II approach. It also marks progress during a CAT III approach. See Instrument Landing System. (Refer to AIM)

#### input

- (1) Information or data transferred or to be transferred from an external storage medium into the internal storage of the computer.
- (2) Describing the routines which direct input as defined in (1) or the devices from which such information is available to the computer.
- (3) The device or collective set of devices necessary for input as defined in (1).

#### input-output/I/O

A general term for the equipment used to communicate with a computer and the data involved in the communication.

- 1. I/O channel -- A CCC selector multiplex channel which presents the CCC's I/O interface to the external world.
- 2. I/O error -- Any hardware, program, or input data condition which prevents normal I/O processing by the program. See transient I/O error.
- 3. I/O path -- That chain of hardware which links CCC core storage with a physical device. It includes a channel and one or more control units. See control unit and physical device.

4. input/output typewriter -- A device used to enter information or to receive information as the result of computer processing.

input/output control element off-loading

General dispatching of the processor.

insertion loss

The added loss introduced when a device or line section is interposed between two elements of a circuit. The qualification of "insertion" is used because the new circuit element may not match the impedance of the former circuit elements. Consequently, the apparent loss added to the circuit may not be the same as the loss of the new element when measured alone. If the device or line section, when inserted, causes mismatched circuits to become matched, an insertion gain may result.

insolation

Incoming solar radiation falling upon the earth and its atmosphere.

instability

A general term used to indicate various states of the atmosphere in which spontaneous convection will occur when prescribed criteria are met; indicative of turbulence. See absolute instability, conditionally unstable air, convective instability.

instrument

A device using an internal mechanism to show visually or aurally the attitude, altitude or operation of an aircraft or aircraft part. It includes electronic devices for automatically controlling an aircraft in flight.

integrated circuit/IC

A single piece of silicon or other semiconductor material which contains all the components of an electronic circuit. The term IC is also used to refer to the package that contains the integrated circuit. See chip.

integrity

See data integrity, system integrity.

### interactive computing

Use of a computer such that the user is in control and may enter data or make other demands on the system which responds by the immediate processing of user request and returning appropriate replies to these requests.

### intercept

(1) The encounter with or tracking of an airborne object, normally as a result of a flight path pre-planned to effect such encounter in the shortest practicable time. (2) With respect to celestial navigation, the difference in minutes of arc between an observed altitude of a celestial body and its computed altitude for the same time. This difference is measured as a distance in nautical miles from the plotting position along the azimuth of the body to determine the point through which to plot the line of position.

### interceptor

An airplane engaged for the sole purpose of performing an intercept.

1. interceptor training flight -- The flight of one or more aircraft for the development and maintenance of proficiency for both air and ground components related to the intercept mission.

### interchange channel/IXC

That portion of a private telephone line which connects central offices.

### interdiction

The act of impeding or denying the use of system resources to a user.

### interface

(1) The connection of one electronic device to another, such as the connection of a peripheral device to a computer. It applies to both the physical connector and the electronic signals at the connector. (2) A point of connection between networks or systems and privately owned terminal equipment. It represents a user, telephone company demarcation point.

### interfacility flow control network

This system provides a two way communications link between the CFCC, CFCF and the TMU's. In addition, the processing

system interfaces with the ARINC and AFTN/NADIN circuits for flight plan updates from airlines and flight service stations.

#### interlaced scanning

In a video display, a scanning process in which successively scanned lines are spaced an integral number of line widths, and in which the adjacent lines are scanned during successive cycles of the field frequency.

#### inter-modulation (non-linear) distortion

The generation of signal components that are not present in the input signal. The principal cause is non-linear electronic circuits such as amplifiers, modulators and demodulators. The effect is a distorted output with low amplitude signals whose frequencies are multiples of the input signal harmonics. With multiple frequency inputs the non-linear distortion shows up as harmonics of individual inputs plus the sum and difference products of the inputs and their harmonics (intermodulation products). This type of distortion is evaluated by measuring a number of second and third order modulation products which result from the non-linearity's acting on a multiple-tone transmitted signal.

#### internal security audit

A security audit conducted by personnel responsible to the management of the organization being audited.

#### international date line

The anti-meridian of Greenwich, modified to avoid island groups and land masses; in crossing this Greenwich anti-meridian there is a change of local date.

#### inter-state

Within the 48 contiguous states, Alaska, Hawaii and the District of Columbia.

1. inter-state air commerce -- The carriage by aircraft of persons or property for compensation or hire, or carriage of mail by aircraft, or the operation or navigation of aircraft in the conduct or furtherance of a business or vocation, in commerce between a place in any State of the United States, or District of Columbia; or between places in the same State of the United States through the airspace over any place outside thereof; or between places in the same

territory or possession of the United States, or District of Columbia.

2. inter-state air transportation -- The carriage by aircraft of persons or property as a common carrier for compensation or hire, or the carriage of mail by aircraft, in commerce: between a place in a State or District of Columbia and another place in another State or the District of Columbia; between places in the same State through the airspace of any place outside that State or between places in the same possession of the United States; whether that commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

#### intertropical convergence zone

The boundary zone between the trade wind system of the Northern and Southern Hemisphere. It is characterized in maritime climates by showery precipitation with cumulonimbus clouds sometimes extending to great heights.

#### intra-state air transportation

The carriage of persons or property as a common carrier for compensation or hire, by turbojet-powered aircraft capable of carrying thirty or more persons, wholly within the same State of the United States.

#### instruction

A machine word or a set of characters in machine language directing the computer to take a certain action.

1. instruction-addressable device -- Any physical device uniquely addressed by an I/O instruction operant.

#### instrument approach procedure/IAP/instrument approach

A series of predetermined maneuvers for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually. It is prescribed and approved for a specific airport by competent authority. See segments of an instrument approach procedure. (Refer to FAR Part 91, AIM) U.S. civil standard instrument approach procedures are approved by the FAA as prescribed under FAR, Part 97 and are available for public use. U.S. military standard instrument approach procedures are approved and published by the Department of Defense. Special instrument approach procedures are approved by the FAA for individual

operators but are not published in FAR, Part 97 for public use.

1. instrument approach procedure (ICAO) -- A series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en route obstacle clearance criteria apply.

#### instrument approach procedure, segments of

An instrument approach procedure may have as many as four separate segments depending on how the approach procedure is structured.

1. initial approach -- The segment between the initial approach fix and the intermediate fix or point where the aircraft is established on the intermediate course or final approach course.
2. intermediate approach -- The segment between the intermediate fix or point and the final approach fix.
3. final approach -- The segment between the final approach fix or point and the runway, airport, or missed approach point.
4. missed approach -- The segment between the missed approach point or the point of arrival at decision height and the missed approach fix at the prescribed altitude.

#### inversion

An increase in temperature with height (a reversal of the normal decrease with height in the troposphere). It may also be applied to other meteorological properties.

#### iso echo

In radar circuitry, a circuit that reverses signal strength above a specified intensity level, thus causing a void on the scope in the most intense portion of an echo, when maximum intensity is greater than the specified level.

#### isobar

A line of equal or constant barometric pressure.



isogonic line/isogonal

A line drawn on a chart joining points of equal magnetic variation.

isogriv

A line drawn on a chart joining points of equal grivation.

isoheight

On a weather chart, a line of equal height. Same as contour.

isoline

A line of equal value of a variable quantity, i. e., an isoline of temperature is an isotherm. See isobar, isotach.

isoshear

A line of equal wind shear.

isotach

A line drawn on a chart joining points of equal wind speed.

isotherm

A line drawn on a chart joining points of equal temperature.

isothermal

Of equal or constant temperature, with respect to either space or time; more commonly temperature with height. A zero lapse rate.

instrument flight

Flight in which the attitude, altitude and course of the aircraft is at all time maintained by the pilot's reference to cockpit instruments.

instrument flight rules/IFR

Flight in which the ATC system assures collision avoidance between aircraft operating in accordance with IFR and CVR in Positive Controlled Airspace. When operating outside Positive Control Airspace, pilot responsibility with respect to collision avoidance differs according to flight weather conditions.

1. IFR aircraft -- An aircraft conducting flight in accordance with Instrument Flight Rules.
2. IFR conditions -- Weather conditions below the minimum for flight under Visual Flight Rules.
3. IFR departure flight plans/arrival flights -- IFR flight plans for aircraft arriving and departing from an airport under the jurisdiction of a particular tower or approach and departure control sector.
4. instrument flight rules (ICAO) -- A set of rules governing the conduct of flight under instrument meteorological conditions.

#### instrument landing system/ILS

A runway approach system for unfavorable weather conditions consisting of equipment both on the aircraft and on the ground. There are three, basic systems on the ground: The localizer, which broadcasts a 100 MHz signal that locates the far end of the runway; the glide slope, which broadcasts a 150 MHz signal from sides of the approach end of the runway and defines the limits within which the aircraft must be for proper approach; and the extended center marker beacon which broadcasts at 75 MHz from several antennas defining the center of the extended runway.

#### 1. ILS Categories:

- a. Category I -- An ILS approach procedure which provides for approach to a height above touchdown of not less than 200 feet and with runway visual range of not less than 1,800 feet.
- b. Category II -- An ILS approach procedure which provides for approach to a height above touchdown of not less than 100 feet and with runway visual range of not less than 1,200 feet.
- c. Category III. -- (1) IIIA -- An ILS approach procedure which provides for approach without a decision height minimum and with runway visual range of not less than 700 feet. (2) IIIB -- An ILS approach procedure which provides for approach without a decision height minimum and with runway visual range of not less than 150 feet. (3) IIIC -- An ILS approach procedure which provides for approach without a decision height minimum and without runway visual range minimum.

2. ILS gate -- The closest point to the runway that an aircraft can intercept the ILS and still make a safe approach. Based on the aircraft type, the gate can be four to eight miles from touchdown. The larger and faster the aircraft, the longer the gate is from the touchdown. When speed classes are mixed on the same runway, then several gates on the same ILS are beneficial.

#### instrument meteorological conditions/IMC

Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling less than the minima specified for visual meteorological conditions. (See visual flight rules)

#### instrument runway

A runway equipped with electronic and visual navigation aids for which a precision or non-precision approach procedure having straight-in landing minimums has been approved.

1. instrument runway (ICAO) -- One of the following types of runways intended for the operation of aircraft using instrument approach procedures:
2. non-precision approach runway -- An instrument runway served by visual aids and a non-visual aid providing at least directional guidance adequate for a straight-in approach.
3. precision approach runway, Category I -- An instrument runway served by ILS and visual aids intended for operations down to 60 m (200 feet) decision height and down to an RVR of the order of 800 m.
4. precision approach runway, Category II -- An instrument runway served by ILS and visual aids intended for operations down to 30 m (100 feet) decision height and down to an RVR of the order of 400 m.
5. precision approach runway, Category III -- An instrument runway served by ILS to and along the surface of the runway and: intended for operations down to an RVR of the order of 200 m (no decision height being applicable) using visual aids during the final phase of landing; intended for operations down to an RVR of the order of 50 m (no decision height being applicable) using visual aids for taxiing; or intended for operations without reliance on visual reference for landing or taxiing.

### insurance stock

Items of material essential for continued service of a facility, or for human safety, for which procurement delays are intolerable.

### integrity

The state existing when data agrees with the source from which it is derived; and when it has not been either accidentally or maliciously altered, disclosed or destroyed.

### intensive student jet training area/ISJTA

Airspace which contains the intensive training activities of military student jet pilots and in which restrictions are imposed on IFR flight.

### inter-active processing

The processing environment characterized by task initiation via commands issued on a terminal. It is possible on some systems for the user to interact with the initiated task, modifying it or its behavior as the user deems necessary. Some systems allow the user to initiate tasks that perform transactions on a data base, the set of allowable transactions being fixed and small. Interactive processing is typified by a high degree of communications between the initiated task and the user.

### inter-changeability

The ability to interchange, without restriction, similar equipment or portions thereof in manufacture, maintenance or operation.

### intercom

Intercommunication between controllers within an ARTCC.

### inter-exchange channel

A communications channel between common carrier exchanges. Measured by airline mileage.

### interface

(1) The common boundary of two bodies or spaces. The functional inter-system relationships which influence system accomplishments. (2) A communication link between two or more system components (i.e., configuration establishes a CCC interface). An on-line device is considered interfaced

unless it is No-Op'ed or inhibited. Interface is also used in referring to the communication link between the computer program and the user.

1. message size -- The average duration of a voice message in call seconds, or the average size of a data message measured in bits or bytes (except for the case of maintenance and operations messages, the size of data messages includes information content only, ISO layer 7, and excludes communication protocols, headers, addresses, etc.).
2. external interfaces -- Interfaces between the NAS and systems and sub-systems outside the NAS.
3. internal interfaces -- Interfaces between systems and sub-systems within the NAS. These interfaces can be categorized as either inter sub-system or intra sub-system.
4. inter sub-system internal interfaces -- Interfaces between sub-systems both located within the NAS.
5. intra sub-system internal interfaces -- Interfaces between end items of a single sub-system located within the NAS.
6. functional interface -- Interfaces which interact across non -material boundaries and are described in terms of information transfer characteristics described in the International Standards Organization/Open System Interconnect (ISO-OSI). seven layer model, as discussed in ISO 7498.
7. message rate -- (1) The probable worst case number of messages per unit time to reach the interface between two sub-systems. (Applies to air traffic messages, flight planning messages, navigation-landing messages, traffic management messages, and weather messages.) (2) The maximum number of messages per unit time (not exceeded more than 0.1% of the time) to reach the interface between two sub-systems. (Applies to communication messages). (3) The average number of messages per unit time to reach the interface between two sub-systems. (Applies to maintenance and operations messages).
8. physical interface -- Interfaces associated with material contact. Physical interfaces are described in terms of mechanical, electrical/ electronic, environmental and envelope characteristics.

9. man-machine interface -- Interfaces that encompass man-man/man-machine interaction involved in the command, control, operation, and maintenance of sub-systems or end items.
10. operational interface -- Type of interface which interacts across a system boundary, and defines the information and services exchanged. Operational interfaces are specified as part of the Operational Requirements and in the development of Operations Concept.

inter-facility

Between adjacent facilities; for example, between ARTCC and ARTCC, between ARTCC and TRACON, etc. Contrasted with intra-facility.

interim altitude

An altitude clearance which is a temporary altitude assignment prior to the issuance a final altitude clearance, it is primarily intended to stop an aircraft's climb or descent in traffic. It is used to specify to the computer so that an invalid conflict alert will be precluded.

interlace

To transmit different interrogation modes on successive sweeps. See sweep.

interleave

(1) Transponder reply trains that overlap in time in such a way that no pulse from either train occurs at a possible pulse position in the other train. (2) In CCC sub-system, it is the same as time-shared. In the radar sub-system, beacon interrogations are generated in a predefined sequence of two or three modes. For example; 32C32C. . .

intermediate approach segment

(See segments of an Instrument Approach Procedure)

intermediate fix

See inner fix.

Intermittent Positive Control/IPC

A data acquisition system that can reliably and accurately provide the ATC center with identity, position and altitude

information on all aircraft within designated portions of the airspace. The ATC computer, through a data link, can automatically advise aircraft of threats due to other aircraft, weather, airspace boundaries and surface obstacles. The computer can also generate commands for appropriate evasive maneuvers. The system works on both controlled and uncontrolled aircraft.

### internal control

The specific steps (such as procedures, policies and methods) which management implements to provide reasonable assurance that: obligations and costs are in compliance with applicable laws; funds, property and other assets are safeguarded against waste, loss, unauthorized use or misappropriation; and revenues and expenditures are properly recorded and accounted for to permit the preparation of reliable reports and to maintain accountability over the assets.

1. internal control documentation -- Various types of documentation used to describe internal control methods and measures, to communicate responsibility and authority and to serve as a reference for persons reviewing internal controls and their functioning. Examples are written policies, organization charts, procedures, manuals, memoranda, flow charts, decision tables, completed questionnaires, software, etc.
2. internal control review -- A detailed examination of a system of internal control to determine whether adequate control measures exist and are implemented to prevent or detect the occurrence of potential risks in a cost effective manner.
3. internal control system -- The sum of the organization's methods and procedures used to achieve the objectives of internal control. An internal control system is not a separate system within an organization, but rather an integral part of the management processes used by an organization to carry out its programs and activities.
4. internal control techniques -- Processes and documents being used to efficiently and effectively accomplish an internal control objective.

### International Aeronautical Telecommunications Switching Center/IATSC

A teletypewriter switching center that connects with the international circuits.

### international airport

Relating to international flight, it means: (1) An airport of entry which has been designated by the Secretary of Treasury or Commissioner of Customs as an international airport for customs service. (2) A landing rights airport at which specific permission to land must be obtained from customs authorities in advance of contemplated use. (3) Airports designated under the Convention on International Civil Aviation as an airport for use by international commercial air transport and/or international general aviation. (Refer to Airport/Facility Directory and IFIM)

1. international airport (ICAO) -- Any airport designated by the Contracting State in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, animal and plant quarantine and similar procedures are carried out.

### International Civil Aviation Organization/ICAO

A specialized agency of the United Nations whose objective is to develop the principles and techniques of international air navigation and to foster planning and development of international civil air transport.

### International Field Office/IFO

An FAA Office which has air carrier and general aviation responsibilities overseas.

### International Flight Information Manual/IFIM

A publication designed primarily as a pilot's pre-flight planning guide for flights into foreign airspace and for flights returning to the U.S. from foreign locations.

### International Flight Service Station/IFSS

A central operations facility in the flight advisory system, manned and equipped to control aeronautical point-to-point telecommunications and air/ground telecommunications with pilots operating over international territory or waters providing flight plan following, weather information, search and rescue action, and other flight assistance operations.

### internal fix

A fix contained in fix adaptation.



### inter-phone

Communications between controllers within an ARTCC and stations remote from the ARTCC.

### interrogation

Transmission of a signal intended to trigger a transponder. Also called challenge and challenging system.

1. interrogator -- The ground-based surveillance radar beacon transmitter-receiver which scans in synchronism with a primary radar, transmitting discrete radio signals which repetitiously request all transponders, on the mode being used, to reply. The replies received are mixed with the primary returns and displayed on the same plan position indicator. Also applied to the airborne element of the TACAN/DME system.

### interruption

A break in continuity, the loss or unavailability of a facility/service, regardless of duration.

1. interrupt -- A manually or automatically generated request, detected by the computer, which breaks into the normal operation of a data processing system and causes the system to perform a task which it is not currently executing.

### intersecting runways

Two or more runways which cross or meet within their lengths. See intersection.

### intersection

(1) A point defined by any combination of courses, radials, or bearings of two or more navigational aids. (2) Used to describe the point where two runways, a runway and a taxiway, or two taxiways cross or meet.

1. intersection clearance coordination -- The coordination of an ATC clearance between two or more sectors.
2. intersection departure/intersection takeoff -- A takeoff or proposed takeoff on a runway from an intersection.

### intra-facility

Within a single facility; for example, between two sectors within the same ARTCC, etc. Contrasted with inter-facility.

### intruder

(1) An aircraft which poses a collision threat to another aircraft by flying in airspace where it should not have entered or where it has not been cleared. (2) An altitude reporting aircraft that is being considered as a potential threat and that is being processed by TCAS threat detection logic.

### ion

An atomic particle, atom or chemical radical bearing an electrical charge, either negative or positive.

1. ionizing radiation -- Electromagnetic radiation (gamma rays or x-rays) or particulate radiation (alpha particles, beta particles, neutrons, etc.) capable of producing ions, directly or indirectly, in its passage through matter.

### IR

Ground equipment that transmits the interrogation pulses and receives the corresponding reply pulses from airborne transponders.

### isolation

The containment of users and resources in an AIS system in such a way that users and processes are separate from one another as well as from the protection control of the operating system.

1. isolation level -- The functional level to which a failure can be isolated using accessory test equipment at designated test points.

### issue

To distribute or communicate information. Typically involving a pilot or an aircraft, as in issuing clearances or advisories.

### jamming

Electronic or mechanical interference which may disrupt the display of aircraft on radar or the transmission/reception of radio communications/navigation.

### jet advisory service

The service provided certain civil aircraft while operating within radar and non-radar jet advisory areas. Within radar jet advisory areas, civil aircraft receiving this service are provided radar flight following, radar traffic information, and vectors around observed traffic. In non-radar jet advisory areas, civil aircraft receiving this service are afforded standard IFR separation from all other aircraft known to ATC to be operating within these areas.

### Jet Altitude/JALT

An altitude dividing the low altitude, vector airway, route structure from the high altitude, jet airway, route structure.

### jet blast

Jet engine exhaust (thrust stream turbulence). (See wake turbulence)

### jet routes

A high altitude route system, at the above 18,000 feet MSL, predicated on a network of designated high altitude VHF/UHF facilities.

### jet stream

(1) A quasi horizontal stream of winds, 50 knots or more concentrated within a narrow band embedded in the westerlies in the high troposphere. (2) A migrating stream of high-speed winds present at high altitudes.

### jettisoning of external stores

Airborne release of external stores; e.g., tip-tanks, ordnance. See fuel dumping. (Refer to FAR Part 91)

### job

A task or group of tasks to be performed by a computer. A job is the smallest accounting unit on most computers, e.g., computer resources are normally charges against one account number per job.

### joint acceptance inspection/JAI

An activity to gain consensus of all involved groups that projects for facility establishment, improvement or relocation are completed in accordance with national criteria.

1. joint acceptance board -- A board which consists of representatives of the office responsible for project implementation, Airway Facilities sector,, Air Traffic and others, as appropriate, which has been convened to formally inspect a project.
2. joint acceptance inspection report -- A document used to document all findings of a joint acceptance board.

### joint use

An installed, facility, system, subsystem or equipment which provides services to both the FAA and other agencies or military services. The facility, system, subsystem or equipment may be owned by either the FAA or the sharing organization. The term is used primarily in connection with radars.

1. joint use equipment -- Equipment or a facility providing information to both the FAA and military users.
2. joint use sites -- Long Range radar sites that input to both NAS ATC and the USAF Defense Systems.
3. joint use restricted area -- A restricted area within which IFR and/or VFR flight operations may be authorized by the controlling agency (a FAA facility) when not in use by the using agency.

### JOVIAL

An acronym for "Jules Own Version of an International Algorithm Language''. The primary computer language for the NAS En Route Stage A System.

### junction

A point where a direct route, airway, or coded route intercepts another direct route, airway, or coded route.

### junction filter

A combination of a high-pass and low-pass filter, which is used to separate frequency bands for transmission over separate paths. For example, junction filters are used to separate voice and carrier frequencies at the junction between open wire and cable so that the carrier frequencies and voice frequencies can be sent over non-loaded and voice frequency loaded cable pairs respectively.

### katabatic wind

Any wind blowing downslope. See fall wind, foehn.

### Kelvin temperature scale/K

A temperature scale with zero degrees equal to the temperature at which all molecular motion ceases, i. e., absolute zero ( $0^{\circ}\text{K} = -273^{\circ}\text{C}$ ). The Kelvin degree is identical to the Celsius degree; hence at standard sea level pressure, the melting point is  $273^{\circ}\text{K}$  and the boiling point  $373^{\circ}\text{K}$ .

### key

(1) One element of a multiple element entry device. See keyboard. (2) In cryptography, a sentence of symbols that controls the operations of encryption and decryption.

1. key click -- An audible signal produced by a computer or other device when a key is pressed.
2. key generation -- With respect to cryptography, the origination of a key or of a set of distinctive keys.

### key inspection element

A selected non-equipment oriented parameter, which is a critical indicator of whether or not a support function is being accomplished adequately and proper maintenance is being performed. A key inspection element is the counterpart of a key performance parameter in such areas as roads, grounds, etc.

### key performance parameter

A selected parameter of the system, subsystem or equipment, which is a critical indicator of whether or not it is performing its intended function.

### keyboard

An assembly having the appearance of a typewriter's front section, that is the keys are often arranged like those on a typewriter or calculator. The keys are used to enter information or commands into a computer, or to directly control a teleprinter system, input device, or to control a perforating mechanism. See computer entry device.

1. keyboard control -- The system of cams, links and other mechanisms used to control or direct the output of a keyboard.

### keyboard send-receive set/KSR

A combination teletypewriter transmitter and receiver with transmission capability from keyboard only. As applied to a teletypewriter, the printing unit prepares hard copy and the keyboard unit transmits manually-entered information. There is no paper tape capability. The KSR operates in either half duplex or full duplex configuration on a circuit.

1. keyboard send-receive typing reperforator set/KTR -- Electro-mechanical apparatus that provides terminal facilities for exchanging messages over telegraph, telephone or radio circuits. An operator sends messages by typing on a keyboard which translates the data to serial teletypewriter code. The originating KTR set records the transmission on paper tape in the form of code hole perforations and printed characters. Distant stations record the transmission on page-width copy paper and/or paper tape. These sets operate at speeds up to 100 wpm.

### keypack

See alpha-numeric keypack, keyboard.

### keyword

Synonym for password.

### kilo

A prefix meaning 1000, when used with decimal expressions such as kilometer, or  $1,024 (2^{10})$  when used with binary expressions.

1. kilobit -- A unit of measure for computer memory which equals 1,024 bits.
2. kilobyte -- A unit of measure for computer memory which equals 1,024 bytes.

### kite

A framework, covered with paper, cloth, metal or other material, intended to be flown at the end of a rope or cable, and having as its only support the force of the wind moving past its surfaces.

### klixon

A thermal sensitive device, the element of which is convex in shape, used to open a circuit in the event of overload.

It is normally used for motor protection and is reset manually.

knots/k

A unit of speed equal to one nautical mile per hour.

known traffic

With respect to ATC clearances, means aircraft whose altitude, position, and intentions are known to ATC.

knurl

A matching process which produces a rough surface on an object making it easier to grasp with the fingers.



## land

Landing areas, building areas, runway clear zones, transitional surfaces, clearways, approach zones and areas required for off site construction, entrance roads, drainage, protection of approaches, installation of air navigation facilities, noise compatibility or other airport purposes.

1. land use controls -- Measures, established by State or local government(s), which are designed to carry out land use planning. The controls include, among other measures: zoning, subdivision regulations, planned acquisition including lease-back, easements, covenants or conditions in deeds or leases, building codes, issuance of building permits and capital improvement programs such as sewer, water, utilities or other service facilities.

## land breeze

A coastal breeze blowing from land to sea, caused by temperature difference when the sea surface is warmer than the adjacent land. Therefore, it usually blows at night and alternates with a sea breeze, which blows in the opposite direction by day.

## landfall

(1) The first point of land over which an aircraft crosses when flying from seaward. (2) As used in celestial navigation, the procedures in which an aircraft is flown along a celestial line of position which passes through the destination.

## landing area

Any locality either on land or water, including airports and intermediate landing fields, which is used, or intended to be used, for the landing and takeoff of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

1. landing area (ICAO) -- That part of a movement area intended for the landing or takeoff of aircraft.

## landing

1. landing categories -- See category, landing.

2. landing direction indicator -- A device which visually indicates the direction in which landings and takeoffs should be made. See tetrahedron. (Refer to AIM)
3. landing roll -- The distance from the point of touchdown to the point where the aircraft can be brought to a stop or exit the runway.
4. landing sequence -- The order in which aircraft are positioned for landing. See approach sequence.
5. landing threshold -- The beginning of that portion of a runway usable for landing.

#### landing gear

1. landing gear extended speed -- The maximum speed at which an aircraft can be safely flown with the landing gear extended.
2. landing gear operating speed -- The maximum speed at which the landing gear can be safely extended or retracted.

#### landing minimums/IFR, landing minimums

The minimum visibility prescribed for landing a civil aircraft while using an instrument approach procedure. The minimum applies with other limitations set forth in FAR Part 91 with respect to the Minimum Descent Altitude (MDA) or Decision Height (DH) prescribed in the instrument approach procedures as follows:

1. straight-in landing minimums -- A statement of MDA and visibility, or DH and visibility, required for a straight-in landing on a specified runway, or
2. circling minimums -- A statement of MDA and visibility required for the circle-to-land maneuver.

Descent below the established MDA or DH is not authorized during an approach unless the aircraft is in a position from which a normal approach to the runway of intended landing can be made and adequate visual reference to required visual cues is maintained. See straight-in landing, circle-to-land maneuver, Decision Height, Minimum Descent Altitude, visibility, Instrument Approach Procedure. (Refer to FAR Part 91)

### language

A system for representing and communicating information or data between people, between people and machines or between machines. Such a system consists of a defined set of characters and rules for combining them into larger units, such as words or expressions, and rules for word arrangement or usage to achieve specific meaning.

### lapse rate

The rate of decrease of an atmospheric variable with height; commonly refers to a decrease of temperature with height.

### large aircraft

An aircraft of more than 12,500 pounds maximum certificated takeoff weight.

### large scale ECM mission

An ECM mission performed by seven or more aircraft working as a unit.

### large search area/LSA

A specified region used in the correlation process which encompasses the Small Search Area and is centered about the predicted track position.

### last assigned altitude

The last altitude/flight level assigned by ATC and acknowledged by the pilot. See maintain. (Refer to FAR Part 91)

### latch

A lever, or bar with a notch or slot, or a hook used to engage some part to prevent motion.

### latent heat

The amount of heat absorbed (converted to kinetic energy) during the process of change of liquid water to water vapor, ice to water vapor, or ice to liquid water; or the amount released during the reverse processes.

1. latent heat of condensation -- Heat released during the change of water vapor to water.

2. latent heat of fusion -- Heat released during the change of water to ice or the amount absorbed in the change of ice to water.
3. latent heat of sublimation -- Heat released during the change of water vapor to ice or the amount absorbed in the change of ice to water vapor.
4. latent heat of vaporization -- Heat absorbed in the change of water to water vapor; the negative of latent heat of condensation.

#### lateral axis

An imaginary line running through the center of gravity of an aircraft, parallel to the straight line through both wing tips.

#### lateral separation

The lateral spacing of aircraft at the same altitude by requiring operation on different routes or in different geographical locations. See separation.

#### latitude/lat

Angular distance measured north or south of the equator along a meridian, 0° through 90°.

#### layer

In reference to sky cover, clouds or other obscuring phenomena whose bases are approximately at the same level. The layer may be continuous or composed of detached elements. The term "layer" does not imply that a clear space exists between the layer or that the clouds or obscuring phenomena composing them are of the same type.

#### leader

A straight line connecting the track symbol and the alphanumeric data. See data block.

#### leading zeros

Zeros placed ahead of positive integers for parity. In the number 0200 the zero preceding the 2 is a leading zero.

### leak/leaking

Any instance in which an article, container or equipment has any fuel, oil or other chemical residue on any portion of its external surface.

### lee wave/mountain wave/standing wave

Any stationary wave disturbance caused by a barrier in a fluid flow. In the atmosphere when sufficient moisture is present, this wave will be evidenced by lenticular clouds to the lee of mountain barriers.

### legal recording

A set of data used as the legal record of the operational environment.

### lenticular cloud/lenticularis

A species of cloud whose elements have the form of more or less isolated, generally smooth lenses or almonds. These clouds appear most often in formations of orographic origin, the result of lee waves, in which case they remain nearly stationary with respect to the terrain (standing cloud), but they also occur in regions without marked orography.

### letters category

That part of the typebox containing pallets bearing the letters. This term also applies to the posting of the printer components to print in the "letter case."

### letters shift

A function performed by a teletypewriter, when initiated by the letters shift character, which causes the machine to shift from upper case (figures, symbols) to lower case (letters). Also, used as part of certain control codes.

### level of free convection/LFC

The level at which a parcel of air lifted dry adiabatically until saturated and moist adiabatically thereafter would become warmer than its surroundings in a conditionally unstable atmosphere. See conditional instability and adiabatic process.

### lever

An arm, rod, or bar which is pivoted about some point called the fulcrum and which is used to transfer motion from one component to another.

### life, useful

The total operating time in which an item remains operationally effective and economically useful before wear-out.

### life cycle cost

(1) The total cost of acquisition, operation, maintenance and support of an system throughout it's useful life. (2) The total cost of owning, operating and maintaining a building over its useful life, including energy costs. In the case of a leased building costs are calculated over the effective remaining term of the lease.

### lifting condensation level/LCL

The level at which a parcel of unsaturated air lifted dry adiabatically would become saturated. Compare level of free convection and convective condensation level.

### Light Emitting Diode/LED

An electronic device which glows when an electric current flows through it.

### light gun

A hand held directional light signaling device which emits a brilliant narrow beam of white, green or red light as selected by the tower controller. The color and type of light transmitted can be used to approve or disapprove anticipated pilot actions where radio communication is not available. The light gun is used for controlling traffic operating in the vicinity of the airport and on the airport movement area. (Refer to AIM)

### light pen

A photoelectric device for entering displayed positional data in the computer.

### lighted airport

An airport where runway and obstruction lighting is available. See airport lighting. (Refer to AIM)

### lighter-than-air aircraft

An aircraft that can rise and remain suspended by using contained gas weighing less than the air that is displaced by the gas.

### lightning

Generally, any and all forms of visible electrical discharge produced by a thunderstorm.

### limit(s)

How much a parameter is permitted to vary before a circuit is considered to be out of tolerance.

### limited program tape

A loop of punched paper tape which is inserted in the tape reader portion of a digital data transmission device which automatically controls the tape punch for entry of certain machine function codes on a product tape but requires the manual entry of selected data in the required format.

### line

(1) Either a two-wire or four-wire circuit between a sending station and a receiving station, which can have one (1) or both equipment terminations dedicated or switch connected. Sometimes referred to as a signal line or telephone line. (2) The metallic circuit between the sending station and the receiving station, used to carry the current for operation of a printer.

1. line circuit -- The circuitry required to terminate, convert and provide transmission, supervisory and control signals at the position side of the interconnection networks and position and/or equipment end instruments. This circuitry can be divided between actual network terminations and position equipment terminations. This includes all circuitry that interfaces the position with the interconnection networks and the common control.
2. line current -- The direct current in a metallic loop at a given time, measured in milliamperes.
3. line relay -- A sensitive polar relay connected in series with the line. Its contacts control the operation of a teleprinter selector manager.

4. line segment -- Two nodes and the straight line connecting them. Segments of A-lines, D-lines, B-lines, and S-lines can be defined by modes and/or fixes and the straight lines connecting them.

#### line of constant bearing

An unchanging directional relationship between two moving objects.

#### line and drop

The two parts into which a circuit is generally split. When a telephone service tests the drop side, the service is looking for trouble toward the customer's equipment or the equipment in the central office in which he/she is working. When testing the line side, the telephone service is measuring to a distant office.

#### line feed/LF

A function performed by a teletypewriter, when initiated by the line feed character, which causes the machine to advance the paper feed roller to the next line (1/6"). Also used in certain control codes.

1. line feed clutch -- One of six, steel shoe, internal expansion clutches mounted on the main shaft of a printer and used to initiate the action required for the line feed function.
2. line feed function -- The mechanical operation of the printer which produces a line feed.

#### line filter

A filter associated with a transmission line. In some applications, line filter may imply a filter used to separate the speech frequencies from the carrier frequencies; in other applications, it may imply directional separation.

#### line frequency

In a video display, the number of times per second that a fixed vertical line in the picture is crossed in one direction by the scanning spot. Scanning during vertical intervals is counted.

1. number of scanning lines -- The ratio of line frequency to frame frequency.



### line group

The frequency spectrum occupied by a group of carrier channels applied to a transmission facility.

### line monitor relay group

Those relays which operate to control the send and receive functions in a teletype system.

### line of position/LOP

A line containing all possible geographic positions of an observer at a given instant of time.

### line shunt relay

A relay which when unopened places a shunt (short circuit) across the signal line. During normal printer operation, this relay is operated and the shunt is removed from the line.

1. line filter bypass -- A network designed to maintain phantom group balance when one side of the group is equipped with a carrier system. Since it must balance the phantom group for only voice frequencies, its configuration is usually quite simple compared with the filter that it balances.

### link

A connecting bar or rod, with movable pivots at each end, used to transfer motion.

### link encryption

(1) The application of on-line crypto-operations to a link with a communications system so that all information passing over the link is encrypted in its entirety. (2) End-to-end encryptor within each link of a communications network.

### linkage

(1) A series or system of links; a series of connecting members for transfer of motion. (2) The purposeful combination of data or information from one information system with that from another system in the hope of deriving additional information; in particular, the combination of computer files from two or more sources.

### liquid

Any substance in a liquid form, including, but not limited to oil, petroleum and chemicals.

1. oil or petroleum liquid/product -- Oil or petroleum of any kind in liquid form including, but not limited to, waste oils and distillation products such as fuel oil, kerosene, naphtha, gasoline and benzene.

### Liquid Cristal Display/LCD

A video display device consisting of a liquid crystal material sealed between two glass plates. The crystals allow light to pass through them in response to electrical charges.

### list(s)

Aircraft data presented in tabular form on a plan view display.

### lithometeor

The general term for dry particles suspended in the atmosphere such as dust, haze, smoke, and sand.

### load

- (1) The process of entering information into a computer from memory or from a peripheral device.
1. loading routine -- A set of coded instructions contained in a computer memory which may be used to load additional information.

### load factor

The ratio of a specified load to the total weight of the aircraft. The specified load is expressed in terms of any of the following: aerodynamic forces, inertia forces, or ground or water reactions.

### lobe

The high portion of a cam. That portion of a cam which has the greatest radius.

### Local Access and Transport Area/LATA

The geographical area established by an LEC for the administration of communications service. LATA encompasses

designated exchanges which are grouped to serve common social, economic and other purposes.

#### local area network/LAN

A communications network composed of a series of stations connected by a transmission medium with a high data transmission rate covering a geographical area less than 10 miles.

#### local changes

A unique change to one facility which does not conflict with or alter national operations or procedures.

#### local channel

The connection between the common carrier (leased communications) test room, where the inter-exchange line is terminated, and the service outlet, such as an ARTCC or ATCT.

#### local control

This is the control process which is responsible for the control of the runway surfaces. It takes control of arrival aircraft about three to five miles from touchdown, clears them to land, and issues takeoff clearances to departures. See flow control.

#### local device

A device within an ARTCC having input/output capabilities to or from the CCC. Example: I/O typewriter, computer entry device (CED), and computer readout device (CRD).

#### local exchange company/LEC

The local telephone company.

#### local loop

(1) A signal line, with its own power source, used for test or transmission within a small area, such as within a building. Sometimes referred to as a dummy line. (2) That portion of a telephone circuit which connects the customer's equipment to equipment at a central office.

1. local operation -- The operation of equipment on a local loop.

## local traffic

Aircraft operating in the traffic pattern or within sight of the tower, or aircraft known to be departing or arriving from flight in local practice areas, or aircraft executing practice instrument approaches at the airport. See traffic pattern.

## localizer

Operates in the 108-112 MHz band and provides the signal used to line up aircraft with the centerline of the runway. The path is formed by equi-signal crossover of two lobes, one modulated at 90 Hz and the other at 150 Hz. These lobes are formed by an array of antennas located just beyond the stop end of the runway. See ILS system.

1. localizer course (ILS) (ICAO) -- The locus of points, in any given horizontal plane, at which the DDM (difference in depth of modulation) is zero.
2. localizer usable distance -- The maximum distance from the localizer transmitter at a specified altitude, as verified by flight inspection, at which reliable course information is continuously received. (Refer to AIM)

## Localizer type Directional Aid/LDA

A NAVAID used for non-precision instrument approaches with utility and accuracy comparable to a localizer but which is not a part of an complete ILS and is not aligned with the runway. (Refer to AIM)

## location

(1) A general term used to refer to a facility (input/output source) external to a center. (2) A named place where communication service is furnished or desired.

1. location indicator (ICAO) -- A four-letter code group assigned to the location of an aeronautical fixed facility.

## locator beacon, personnel

A portable, lightweight beacon, manually operated, which is designed to be carried on the person, in the cockpit of an aircraft, or attached to a parachute, which operates from its own power source on 121.5 MHz and/or 243 MHz, preferably on both emergency frequencies, transmitting a distinctive downward swept audio tone for homing purposes, which may or

may not have voice capability, and which is capable of operation by unskilled persons.

#### lock

A device used to retain or hold a lever or other device in a fixed position until released by an unlocking unit. Similar to latch.

#### lock and key protection system

A computer protection system that involves matching a key or password with a specified access requirement.

#### log

A written record of computed or observed flight data; generally applied to the written navigational record of a flight.

#### logic priority

That logic inherent in the CCC design which defines data transfer priorities between external devices and the CCC I/O system.

#### logical completeness measure

A means for accessing the effectiveness and degree to which a set of security and access control mechanisms meet the requirements of a set of security specifications.

#### logical device

The symbolic name used by the program to refer to a functionally significant data source or data destination.

#### logical information

Alphabetic or numeric character codes (called alphanumeric data) and fixed-length logical data upon which operations such as comparison, translation, bit testing, and bit setting are performed.

#### logistic support

Support given the NAS operational requirements through acquisition, storage, distribution and inventory control of instruments, supplies, spare parts, tools and working equipment.

## loop

(1) A short transmission line which connects a telephone subscriber to the switchboard. (2) A closed path in which a signal may circulate. This path may be within a piece of equipment, such as a repeater or carrier terminal, or may be a complete carrier circuit.

1. loop options -- The different dc circuit arrangements that can be made between a carrier telegraph terminal and a teleprinter.

## long

When the net loss of a telephone circuit is more than the limits allowed.

## longitude/long

The angular distance east or west of the Greenwich meridian, measured in the plane of the equator or of a parallel from 0° to 180°.

## longitudinal axis

An imaginary line running fore and aft through the center of gravity of an aircraft, parallel to the axis of the propeller or thrust line.

## longitudinal deviation

The number of miles by which a track position currently leads or lags its associated flight plan position.

## longitudinal redundancy character

A lengthwise parity bit of a TTY message.

## longitudinal separation

The longitudinal spacing of aircraft at the same altitude by a minimum distance expressed in units of time or miles. See separation. (Refer to AIM)

## long-range flight plans

Flight plans for flights which have a proposed departure time that is at least several hours later than the time at which the flight plan is filed.

### loop

A closed TTY circuit with two or more TTY devices connected in series. Transmission is limited to one terminal at a time. See automatic program unit, area B and drop.

1. loop resistance -- The dc resistance of a cable pair from a central office to a local customer.

### loopback

An arrangement used to connect the receive side of a circuit to the transmit side, thus forming a loop that enables a distant point to check circuit continuity. Generally, telephone company loopback devices used on air-to-ground circuits are activated by application of 2400 Hz at the proper transmission level.

### loophole

An error of omission or oversight in software or hardware which permits circumventing the access control process. Synonymous with fault, flaw.

### LORAN/Long Range Navigation

A hyperbolic radio-navigation system that uses ground waves at low frequencies to obtain an operating range of approximately 1,000 miles independent of line-of-sight. It uses a pulse techniques to avoid sky wave contamination. The Loran-C system currently consists of 16 chains operating throughout the world, comprising a total of 51 transmitting stations. The difference in time of receipt of radio pulses from one such pair of stations is measured and the resultant time difference locates the aircraft on a hyperbolic line. When this is crossed with a second hyperbolic line from another pair of stations, a fix is obtained. Loran operation is primarily along coastal areas, with approximately two-thirds of the continental United States and Alaska currently within the Loran-C coverage area. Letter designations such as A, C, and D denote different broadcast operating frequencies. LORAN A operates in the 1750 - 1950 kHz frequency band. LORAN C and D operate in the 100-110 kHz frequency band. See Decca navigation.

1. near band interference -- Interference whose carrier frequency lies in the frequency band 70-88 kHz, 112-130 kHz.
2. near-synchronous interference -- Near band interference whose carrier frequency/ $f_c$  satisfies the relationship:

magnitude  $[f_c - N/(2GRI)]$  is less than 0.006 Hz where N is an integer.

lost communications/two-way radio communications failure

Loss of the ability to communicate by radio. Aircraft are sometimes referred to as NORDO (No Radio). Standard pilot procedures are specified in FAR Part 91. Radar controllers issue procedures for pilots to follow in the event of lost communications during a radar approach when weather reports indicate that an aircraft will likely encounter IFR weather conditions during the approach. (Refer to FAR Part 91, AIM)

low

An area of low barometric pressure, with its attendant system of winds. Also called a barometric depression or cyclone.

low altitude air to air training/LOWAT

Maneuvers performed on MTR's that are not "classical intercepts." LOWAT allows for observation and analysis of an aerial attack, initiation of the appropriate defense response and continuation of the primary mission with minimal interruption.

low altitude airway structure/federal airways

The network of airways serving aircraft operations up to but not including 18,000 MSL. See airway. (Refer to AIM)

low altitude alert, check you altitude immediately

See safety alert.

Low Altitude Alert System/LAAS

An automated function of the TPX-42 that alerts the controller when a Mode C transponder-equipped aircraft on an IFR flight plan is below a predetermined minimum safe altitude. If requested by the pilot, LAAS monitoring is also available to VFR Mode C transponder-equipped aircraft.

low altitude operation

Operations conducted below FL 180 (FL 240 in Alaska).

low approach

An approach over an airport or runway following an instrument approach or VFR approach including the go-around



maneuver where the pilot intentionally does not make contact with the runway. (Refer to AIM)

low frequency/LF

The frequency band between 30 and 300 kHz. (Refer to AIM)

low-pass filter

A filter that passes all frequencies below a certain designated cutoff point, and attenuates all frequencies above that point.

low speed data transfer channel

See data transfer channel, low

lower sideband

The lower of two frequencies or two groups of frequencies produced by a modulation process.

lubber line

A reference mark representing the longitudinal axis of an aircraft.

lug

(1) An ear-like projection by which an object is held, supported, or contacted by some other object. (2) A formed piece of metal used to connect wires to terminals.

### mach number

(1) The ratio of the velocity of a body to that of sound in the medium in which the body is moving. (2) The ratio of true airspeed to the local speed of sound; e.g., MACH .82, MACH 1.6. See airspeed.

### machine language

A programming language which uses only numbers. Programmers use it to work directly with the CPU.

### magnetic bearing

The direction of another aircraft from own aircraft measured in degrees clockwise (as viewed from above) from magnetic north.

### magnetic

Relating to the earth's magnetic poles.

1. magnetic direction -- A direction measured clockwise from the magnetic meridian.
2. magnetic radial (from VOR or VOR/DME station) -- A radial from a VOR or VOR/DME station designated in degrees from either assigned magnetic variation or station north. Station north differs from true north by "station declination" which is chosen to approximately align station north with magnetic north. (Current practice is to change station declination when differences between it and the local magnetic variation differs by two degrees.)

### magnetic (H) field

One of two mutually supporting vectors of an electromagnetic wave the intensity of which is expressed in amperes per meter (A/m). A magnetic field exists in a region if magnetic objects in the region experience a force.

### magnetic variation

The local difference between magnetic north and true north, as determined from an epoch year description of the earth's magnetic field.

### main memory

See storage, main.

### main rotor

The rotor that supplies the principal lift to a rotorcraft.

### main (or standby) units

Those units which are operationally critical, and in order to achieve a high degree of reliability are redundantly integrated into the system.

### mainshaft

The shaft which is coupled to a motor and from which the mechanical power is distributed.

### maintain

(1) Concerning altitude/flight level, the term means to remain at the altitude/flight level specified. The phrase "climb and" or "descend and" normally precedes "maintain" and the altitude assignment; e.g., "descend and maintain 5,000." (2) Concerning other ATC instructions, the term is used in its literal sense; e.g., maintain VFR. (3) Control, responsibility and accountability for a system of records.

### maintainability

(1) A measure of the ease and rapidity with which a system or equipment can be restored to operational status following a failure, expressed as the probability that an item will be retained in or restored to a specific condition within a given period of time when the maintenance is performed in accordance with prescribed procedures and resources. See availability.

1. maintainability engineering -- The engineering discipline which formulates an acceptable combination of design features, repair policies and maintenance resources, to achieve a specified level of maintainability, as an operational requirement, at optimum life cycle costs.

### maintenance

(1) All actions necessary for retaining an item in a specified condition before failure or breakdown (preventive maintenance) or the process of restoring an item to return it to a workable condition (corrective maintenance). (2) Any specified sequence of steps prescribed to accomplish a maintenance activity. (3) Any service activity such as

repairing, monitoring, testing, troubleshooting or modifying any module in the system. Maintenance may be broken down into the following categories:

1. off-line -- Maintenance performed on modules in the test or inactive state. This is the more common form of maintenance.
2. on-line -- Maintenance performed on active modules. Examples include status and performance monitoring and dynamic fault detection.

On-Line and Off-Line maintenance may be further categorized as:

3. scheduled -- Maintenance activity that is carried out at a planned time, whether or not the exact nature of the maintenance to be undertaken was known ahead of time. Scheduled maintenance includes:
  - a. preventive -- Maintenance that is planned, periodic marginal and functional testing of modules. Marginal components and system misalignment will be located here.
  - b. routine -- Maintenance is the regular servicing of failed assemblies at the test bench or repetitive minor servicing of components or assemblies at the operation site.
  - c. corrective (for known failures) -- Maintenance is servicing of failed modules at a later time that is more convenient, as when there will be a higher maintenance capability or when there will be a lower air traffic demand.
4. unscheduled -- Maintenance activity that was unplanned and must be carried out immediately following a failure detected by on-line maintenance and is such that it cannot be rescheduled.

#### maintenance capabilities

The facilities, tools, test equipment, drawings, technical publications, trained maintenance personnel, engineering support and spare parts required to restore a system to serviceable condition.

#### maintenance concept

A description of the planned general scheme for maintenance and support of an item in the operational environment. The

maintenance concept provides the practical basis for design, layout, and packaging of the system and its test equipment and establishes the scope of maintenance responsibility for each level (echelon) of maintenance and the personnel resources (maintenance manning and skill levels) required to maintain the system.

#### maintenance management data

Any maintenance related information, analyses, or reports developed and provided by the RMMS from such sources as past equipment status and alarm records, corrective and preventive maintenance records, spare parts records, etc.

1. maintenance control command -- commands that perform control, diagnostic and adjustment functions.
2. maintenance data in -- Equipment status requests, certification parameter data requests, maintenance control commands and maintenance management data.
3. maintenance data out -- Equipment status and alarms, certification parameter data, maintenance control response, maintenance management data request and corrective/preventive maintenance data.

#### Maintenance Monitor Console/MMC

The keyboard/crt located at the SMMCV for use by the systems engineer. Additional MMC's are provided for use by appropriate ARTCC technicians; e.g., communications technicians for the RCAG.

#### maintenance personnel

Individuals who are responsible for corrective and periodic maintenance activities at a facility. These activities include adjustment, calibration, troubleshooting, inspection, overhaul, etc., of equipment.

#### Maintenance Processor Subsystem/MPS

The central processor located at an ARTCC, used to connect the entire RMMS together, analyze system parameters and maintain a data base.

#### maintenance task

Actions required to preclude the occurrence of a malfunction or restore equipment to a satisfactory operating condition.

major airway

An airway having higher posting priority than a minor airway when intercepted within a FPA during direct route conversion.

major alteration

An alteration not listed in the aircraft, aircraft engine or propeller specifications: that might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics or other qualities affecting airworthiness; or that is not done according to accepted practices or cannot be done by elementary operations.

major repair

A repair: that, if improperly done, might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics or other qualities affecting airworthiness; or that is not done according to accepted practices or cannot be done by elementary operations.

make short approach

Used by ATC to inform a pilot to alter his traffic pattern so as to make a short final approach. See traffic pattern.

mammato cumulus

Obsolete. See cumulonimbus mamma.

mandatory altitude

An altitude depicted on an instrument Approach Procedure Chart requiring the aircraft to maintain altitude at the depicted value.

maneuver anticipation

A means, achieved either by equipment mechanization or procedurally, by which path changes are initiated in aircraft navigation.

maneuver area

A designated area within an MTR where aircraft may deviate from the route centerline and perform various maneuvers to deliver personnel, equipment or weapons. Delivery may be simulated or actual.

manifold pressure

Absolute pressure as measured at the appropriate point in the induction system and usually expressed in inches of mercury.

managed airspace

That part of the airspace which is designated and affected by unique procedural and or equipage requirements.

manned facility

A facility which is normally occupied by specialists, technicians or other FAA personnel for the conduct or support of NAS operations.

manual input

Manual input by an operator. This could consist of key strokes on a keyboard or key pad, track ball movements, etc.

manual mode

Flight data processing is accomplished within the use of the NAS computer.

map symbol(s)

Figures and designs used to represent topographical, cultural, and aeronautical features on a map or chart.

mapping

The blanking out of unwanted radar returns such as clutter. Aircraft targets, when they are displayed, may appear at a reduced intensity in this area.

mare's tail

See cirrus.

maritime polar air/MP

See polar air.

maritime SAR region

The area in which the U. S. Coast Guard exercises the SAR coordinating function. It includes the territories and

possessions of the U. S. (except the Canal Zone and the inland region of Alaska) and areas of the high seas designated in the National SAR Plan. The USCG has divided the Maritime Region into sub-regions and a rescue coordination center in each sub-region exercises coordination responsibilities.

maritime tropical air/MT

See tropical air.

mark

(1) An impulse which, in a neutral circuit, causes the loop to be closed; or in a polar circuit, causes the loop current to flow in a direction opposite to that for a space impulse.  
(2) A descriptive name, instructions, cautions, or other information applied to fuel, oil or other chemical items or objects which are subject to regulation.

1. mark-hold -- The normal no-traffic line condition whereby a steady mark is transmitted.
2. mark-to-space transition -- The transition, or switching, from a marking impulse to a spacing impulse.
3. mark pulse -- A binary coded pulse obtained by causing the presence of a current in the signal line for a prescribed period of time.

Mark X SIF

The military version of the ATCRBS. See bracket decoding.

marker beacon(s)

(1) A radio transmitter(s) established at range stations, along airways and at intermediate points between range stations to assist pilots and observers in fixing position.  
(2) A portion of an ILS system which includes two or three marker beacons operating at 75 MHz from a vertical fan-shaped lobe that is perpendicular to the direction of flight. In a two-beacon system, one marker is located about 5 miles from the runway threshold and the second marker is located at the decision point where the glide path is 200 feet above the ground. In a three beacon system, the third marker is located at the runway threshold. See Instrument Landing System.

1. fan type marker -- A 75 megacycle radio transmitter usually installed at strategic points along a radio range across the on course signal. The signal is



produced in a space shaped like a thick fan immediately above the transmitter. The signal may be received visually or aurally, depending on the receiver.

2. M type marker -- A low powered, non-directional radio station which transmits a characteristic signal once every few seconds. The range of the receiver is approximately 10 miles.
3. Z type marker -- A special 75 megacycle radio which transmits a signal within the cone of silence to enable the pilot to identify his position over the range station. The signal may be picked up visually or aurally depending on the receiver used.

#### marker beacon transmissions

The transmission of marker beacon signals through the air (free space).

#### marking

The physical act of indicating on material the assigned classification, changes in classification and any special limitations on the dissemination of the information.

#### marking bias

The tendency of mechanical and/or electrical equipment to produce results that favor marking pulses at the expense of the spacing pulse.

1. marking bias distortion -- Bias distortion which lengthens the marking impulse by advancing the space-to-mark transition.
2. marking end distortion -- End distortion which lengthens the marking impulse by delaying the mark-to-space transition.

#### marking condition

An idle condition of the teletypewriter loop or circuit in which a steady state marking signal prevents the teletypewriter equipment from running open during periods of no traffic.

#### marking contacts

Those relay contacts which are closed when marking current is causing relay operation.

### marking current

That magnitude and polarity of current in the line when the receiving mechanism is in the operated condition.

### MARY tape

A baudot code tape punched to repeat the characters "MARY space 4679" for test purposes.

### masquerading

Synonym for impersonation.

### master station

The primary or control transmitter station, the signal of which triggers the transmitter of one or more other stations. Also a transmitter station, the signals of which are used by other stations as a basis for synchronizing transmissions.

### matched track

A track whose present position and heading has been associated with the proper route leg of its paired flight plan, also a track that is paired to its proper flight plan route segment.

### matching

A computer logical process which determines if a track is in correspondence with its paired flight plan's route. If correspondence is established, the matching process computes which flight plan route segment the track is currently traversing and designates that fix in the flight plan toward which the track is next proceeding as the track next fix.

### material

Any product or substance on, or in which, information is embodied.

### material weakness

A situation in which the designed procedures, or the degree of operational compliance with them, does not meet the objectives of internal control.

### matrix

(1) An array of quantities in a prescribed form; in mathematics, usually capable of being subject to a mathematical operation by means of an operator or another matrix according to prescribed rules. (2) An array of coupled circuit elements; e.g., diodes, wires, magnetic cores, and relays, which are capable of performing a specific function; such as, the conversion from one numerical system to another. The elements are usually arranged in rows and columns. Thus, a matrix is a particular type of encoder or decoder.

### Maximum Authorized Altitude/MAA

The highest altitude on a Federal Airway, jet route, or other direct route for which a MEA is designated in FAR Part 95 at which adequate reception of navigation aid signals is assured.

### maximum wind axis

On a constant pressure chart, a line denoting the axis of maximum wind speed at that constant pressure surface.

### may

"May" means an action is permitted. For example: at navigational aid facilities, certain maintenance activities may be performed without recourse to flight inspection.

### mayday

The international radiotelephony distress signal. When repeated three times, it indicates imminent and grave danger and that immediate assistance is requested. See pan-pan. (Refer to AIM)

### MDF

The location where all internal equipment interfacing with leased or Government owned facilities terminates. The demarcation point is the equipment side of the MDF. At the RCAG, this demarcation point will be mounted outside the building.

### mean bench repair time

The average time required to diagnose a fault, isolate and replace the faulty component and perform those tests necessary to verify the replacement unit is operating in accordance with applicable technical orders.

#### mean down time/MDT

(1) The average time a piece of equipment is down during a maintenance action and during which the system is not in a condition to perform its intended function. (2) The operational down time which is the mean of the times required to restore an equipment to an operational state after a failure and is equal to the Total Outage Time/Number of Outages. See mean time to repair, availability.

#### mean sea level

(1) The average height of the surface of the sea for all stages of tide; used as reference for elevations throughout the U. S. (2) The average level of the sea, used to compute barometric pressure.

#### mean sun

An imaginary sun traveling around the equinoctial at the average annual rate of the true sun.

#### mean time between failure/MTBF

(1) For a particular interval, the total functioning life of a population of an item divided by the total number of failures within the population during the measurement involved. (2) The reciprocal of the mean unit failure rate of an element. See availability.

#### mean time to repair/MTTR

(1) The mean time required to complete a maintenance action, i.e., total active maintenance downtime (fault isolation, fault correction,, calibration and check out) divided by the total number of maintenance actions, over a given period of time, excluding those time elements which are related to preparation and delay, administrative and supply delay, downtime. (2) The inherent down time which is equal to the Total Unscheduled Outage Time/Number of Unscheduled Outages. See mean down time, availability.

#### mean time to restore/MTR

(1) That time associated with re-initiation of a system's functional capabilities. For non-redundant systems, this time is usually equivalent to MTTR. In the case of stand-by redundant systems, or systems where a different hardware type can provide back-up service, system restoration time is equal to the time required to switch operation to the back-up unit. It is computed by dividing the total system outage

time by the number of system outages, over a given period of time. See availability.

mean up time/MUT

The mean of the times between failures. See availability.

measured ceiling

A ceiling classification applied when the ceiling value has been determined by instruments or the known height of unobscured portions of objects, other than natural landmarks.

medical certificate

Acceptable evidence of physical fitness on a form prescribed by the Administrator.

medium speed data transfer channel

See data transfer channel, medium speed.

mega

A prefix meaning one million ( $10^6$ ) when used with decimal numbers or 1,048,576 ( $2^{20}$ ) when used with binary expressions.

1. megabyte -- A unit of measurement for computer memory which equals 1,048,576 bytes.

melting

See change of state.

memory

Integrated circuits in a computer which are used to store data and programs.

1. memory/storage -- The units that store information and from which information can be extracted at a later time.

memory bounds

The limits in the range of storage addresses for a protected region in memory.

1. memory bounds checking -- Synonym for bounds checking.

### mercurial barometer

A barometer in which pressure is determined by balancing air pressure against the weight of a column of mercury in an evacuated glass tube.

### meridional part

A unit of measurement equal to one minute of longitude at the equator.

### mesocyclone

A vertical column of cyclonically rotating air, typically 2 to 15 km in diameter, within a severe thunderstorm.

### message

(1) An arbitrary amount of information whose beginning and end are defined or implied. (2) Operator-typed information recorded on teletypewriter paper and/or tape. A single message is all information contained in any one format and transferred as a unit.

1. message size -- The average duration of a voice message in call seconds, or the average size of a data message measured in bits or bytes (except for the case of maintenance and operations messages, the size of data messages includes information content only, ISO layer 7, and excludes communication protocols, headers, addresses, etc.).

### meteorological data

Refers to changes in alphanumeric information such as surface observations, winds and temperatures aloft, altimeter settings etc., entered into the ACCC by controllers and forwarded to the CWP as amendments.

### Meteorological Impact Statement/MIS

An unscheduled planning forecast describing conditions expected to begin within 4 to 12 hours which may impact the flow of air traffic in a specific center's (ARTCC) area.

### meteorological visibility

In U. S. observing practice, a main category of visibility which includes the subcategories of prevailing visibility and runway visibility. Meteorological visibility is a measure of horizontal visibility near the earth's surface,

based on sighting of objects in the daytime or unfocused lights of moderate intensity at night. Compare slant visibility, runway visual range, vertical visibility. See surface visibility, tower visibility, and sector visibility.

### meteorology

The science of the atmosphere.

### meter fix time/MFT or slot time

A calculated time to depart the meter fix in order to cross the vertex at the ACLT. This time reflects descent speed adjustment and any applicable time that must be absorbed prior to crossing the meter fix.

### meter list display interval/MLDI

A dynamic parameter which controls the number of minutes prior to the flight plan calculated time of arrival at the meter fix, for each aircraft, at which time the TCLT is frozen and becomes an ACLT; i.e., the VTA is updated and consequently the TCLT modified as appropriate until frozen at which time updating is suspended and an ACLT is assigned. When frozen, the flight entry is inserted into the arrival sector's meter list for display on the sector PVD. MLDI is used if filed true airspeed is less than or equal to freeze speed parameters (FSPD).

### metering

A method of time-regulating arrival traffic flow into a terminal area so as not to exceed a predetermined terminal acceptance rate.

1. metering airports -- Airports adapted for metering and for which optimum flight paths are defined. A maximum of 15 airports may be adapted.
2. metering data -- Data used in support of, or generated by, metering processing. Metering processing is the combination of procedures used by operational control personnel in order to reduce congestion and provide fuel conservation strategies for flight within the ACF airspace.
3. metering and sequencing -- Control of an aircraft in a manner that provides a stream of properly spaced aircraft arriving at a fix or airport at a rate which can be accepted by adjacent ATC facilities or airports.

### metering fix

A fix along an established route from over which aircraft will be metered prior to entering terminal airspace. Normally, this fix should be established at a distance from the airport which will facilitate a profile descent 10,000 feet above airport elevation (AAE) or above.

### metering position(s)

Adapted PVD's and associated "D" positions eligible for display of a metering position list. A maximum of four PVD's may be adapted.

1. metering position list -- An ordered list of data on arrivals for a selected metering airport displayed on a metering position PVD.

### metroplex

An area encompassing 4 to 6 high density airports.

### microbarograph

An aneroid barograph designed to record atmospheric pressure changes of very small magnitudes.

### microburst

A down draft induced, diverging, horizontal flow near the surface, whose initial dimension is less than 4 km, and whose differential velocity is greater than 10 m/s.

### microfiche

A sheet of film containing multiple micro-images in a grid pattern and a heading or title which can be read without magnification.

### microfilm

(1) A fine grain, high resolution film containing an image or images greatly reduced in size from the original. (2) The recording of micro-images on film.

### microform

A generic term for all types and formats of microfilm which cannot be read without special viewing devices.



### micro-graphics

The science, art, technology of document and information miniaturization and associated microform systems.

1. micrographic system(s) -- A configuration of equipment and procedures that utilize microforms for the production, reproduction, viewing or retrieval of required documentation.

### micro-images

A unit of information, such as a page of text or drawing, too small to be read without magnification.

### microprocessor

An integrated circuit package which contains the control and processing portion of a computer.

### Microwave Landing System/MLS

A precision instrument approach/landing system operating in the microwave spectrum which provides lateral and vertical guidance to aircraft having compatible avionics equipment. An MLS normally consists of an azimuth station, elevation station and precision distance measuring equipment

1. MLS categories:
  - a. Category I -- an approach procedure which provides for a height above touchdown not less than 200 feet and a runway visual range of not less than 1,800 feet.
  - b. Category II -- Undefined until data gathering/analysis is completed.
  - c. Category III -- Undefined until data gathering/analysis is completed.
2. control motion noise/CMN -- That portion of the guidance signal error which causes control surface, wheel and column motion and could affect aircraft attitude angle during coupled flight, but does not cause aircraft displacement from the desired course and/or glide path.
3. MLS approach reference datum -- A point on the minimum glide path at a specified height above the threshold.

4. MLS auxiliary data -- This data transmitted at the same frequency as, and time division multiplexed with, MLS azimuth, back azimuth, and elevation signals. This data will include: facility identification; azimuth threshold distance; coverage and offset; equipment performance levels; beam widths; DME/P distance, offset, and channel; and elevation height, offset, and distance to threshold. This data will eventually include weather and runway condition information.
5. MLS datum point -- The point on the runway center line closest to the phase center of the approach elevation antenna.
6. path following error/PFE -- That portion of the guidance signal error which could cause aircraft displacement from the desired course and/or glide path.
7. path following noise/PFN -- That portion of the guidance signal error which could cause aircraft displacement from the mean course line of mean glide path as appropriate.

#### microwave radiation

Electromagnetic radiation ranging in frequency from 300 MHz to 300 GHz with corresponding wavelengths ranging from 1.0 meter to 0.1 centimeter.

#### middle marker/MM

A marker beacon that defines a point along the glide slope of an ILS normally located at or near the point of decision height (ILS Category I). It is keyed to transmit alternate dots and dashes, with the alternate dots and dashes keyed at the rate of 95 dot/dash combinations per minute on a 1300 Hz tone, which is received aurally and visually by compatible airborne equipment. See marker beacon, instrument landing system. (Refer to AIM)

#### mil

An angular measurement now accepted as 1/6400th of a circle, or 3.375 minutes of angle. Originally, it was the angle that would subtend an arc of one yard at a distance of 1000 yards.

#### military authority assumes responsibility for separation of aircraft/MARSA

A condition whereby the military services involved assume responsibility for separation between participating military

aircraft in the ATC system. It is used only for required IFR operations which are specified in letters of agreement or other appropriate FAA or military documents.

#### military B

Low-speed (100 wpm) multi-point teletypewriter circuits which connect ARTCC with selected military Base Operations Offices (BASOPS) located within the area of each ARTCC. See service B.

#### military operations area/MOA

See special use airspace.

#### military radar unit/MRU

Any fixed or mobile ground based radar unit under the operational jurisdiction of the military services, excluding commissioned ATC facilities. Military radar units do not provide ATC service.

#### military training routes/MTR

To maintain proficiency, the military services must train in a wide range of airborne tactics. One phase of this training involves low level combat tactics. The required maneuvers and high speeds are such that they may occasionally make the see-and-avoid aspect of VFR flight more difficult without increased vigilance in areas containing such operations. Generally, MTRs are established below 10,000 feet MSL for operations at speeds in excess of 250 knots. However, route segments may be defined at higher altitudes for purposes of route continuity. For example, route segments may be defined for descent, climbout, and mountainous terrain. There are IFR and VFR routes.

1. IFR military training routes/IR -- Operations on these routes are conducted in accordance with IFRs regardless of weather conditions.
2. VFR military training routes/VR -- Operations on these routes are conducted in accordance with VFRs.

#### millibar/mb

An internationally used unit of pressure equal to 1,000 dynes per square centimeter. It is convenient for reporting atmospheric pressure.

mimicking

Synonym for impersonation.

minimal flight path

A path which affords the shortest possible time en route, obtained by using maximum assistance from the wind.

minimum crossing altitude/MCA

The lowest altitude at certain radio fixes at which an aircraft must cross when proceeding in the direction of a higher minimum en route IFR altitude.

minimum descent altitude/MDA

Means the lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circling to land maneuvering in execution of a standard instrument approach procedure where no electronic glide slope is provided.

minimum en route IFR altitude/MEA

The altitude in effect between radio fixes which assures acceptable navigational signal coverage and meets obstruction clearance requirements between those fixes.

minimum fuel

Indicates that an aircraft's fuel supply has reached a state where, upon reaching the destination, it can accept little or no delay. This is not an emergency situation but merely indicates an emergency situation is possible should any undue delay occur. (Refer to AIM)

minimum holding altitude/MHA

The lowest altitude prescribed for a holding pattern which assures navigational signal coverage, communications, and meets obstruction clearance requirements.

minimum IFR altitudes/MIA

Minimum altitudes for IFR operations as prescribed in FAR Part 91. These altitudes are published on aeronautical charts and prescribed in FAR Part 95 for airways and routes, and in FAR Part 97 for standard instrument approach procedures. If no applicable minimum altitude is prescribed in FAR Parts 95 or 97, the following minimum IFR altitude applies: in designated mountainous areas, 2,000 feet above

the highest obstacle within a horizontal distance of 5 statute miles from the course to be flown; or other than mountainous areas, 1,000 feet above the highest obstacle within a horizontal distance of 5 statute miles from the course to be flown; or as otherwise authorized by the Administrator or assigned by ATC. See minimum en route IFR altitude, minimum obstruction clearance altitude, minimum crossing altitude, minimum safe altitude, minimum vectoring altitude. (Refer to FAR Part 91)

minimum obstruction clearance altitude/MOCA

The specified altitude in effect between radio fixes on VOR airways, off-airway routes, or route segments which meets obstruction clearance requirements for the entire route segment and which assures acceptable navigational signal coverage only with 22 miles of a VOR.

minimum reception altitude/MRA

The lowest altitude required to receive adequate signals to determine specific VOR/VORTAC/TACAN fixes.

minimum safe altitude/MSA

(1) The minimum altitude specified in FAR Part 91 for various aircraft operations. (2) Altitudes depicted on approach charts which provide at least 1,000 feet of obstacle clearance for emergency use within a specified distance from the navigation facility upon which a procedure is predicated. These altitudes will be identified as minimum sector altitudes or emergency safe altitudes and are established as follows:

1. minimum sector altitudes/MSA -- Altitudes depicted on approach charts which provide at least 1,000 feet of obstacle clearance within a 25-mile radius of the navigation facility upon which the procedure is predicated. Sectors depicted on approach charts must be at least 90° in scope. These altitudes are for emergency use only and do not necessarily assure acceptable navigational signal coverage.
2. minimum sector altitude/MSA (ICAO) -- The lowest altitude which may be used under emergency conditions which will provide a minimum clearance of 300 m (1,000 feet) above all obstacles located in an area contained within a sector of a circle of 46 km (25 NM) radius centered on a radio aid to navigation.
3. emergency safe altitudes/ESA -- Altitudes depicted on approach charts which provide at least 1,000 feet of

obstacle clearance in non-mountainous areas and 2,000 feet of obstacle clearance in designated mountainous areas within a 100-mile radius of the navigation facility upon which the procedure is predicated and normally used only in military procedures. These altitudes are identified on published procedures as "Emergency Safe Altitudes."

minimum safe altitude warning/MSAW

A function of the ARTS III computer that aids the controller by alerting him when a tracked Mode C- equipped aircraft is below or is predicted by the computer to go below a predetermined minimum safe altitude. (Refer to AIM)

minimum vectoring altitude/MVA

The lowest altitude, expressed in feet above mean sea level, that aircraft will be vectored by a radar controller. This altitude assures communications, radar coverage, and meets obstruction clearance criteria.

minimums/minima

Weather condition requirements established for a particular operation or type of operation; e.g., IFR takeoff or landing, alternate airport for IFR flight plans, VFR flight, etc. See landing minimums, IFR takeoff minimums, VFR conditions, IFR conditions. (Refer to FAR Part 91, AIM)

minor airway

An airway having a lower posting priority than a major airway.

minor alteration

An alteration, to an aircraft, which is other than a major alteration.

minor repair

A repair, to an aircraft, which is other than a major repair.

missed approach

A runway approach that must be aborted as a result of problems such as insufficient aircraft spacing, excessive cross-track on approach velocity, or insufficient forward visibility.

missed approach point/MAP

A point prescribed in each instrument approach procedure at which a missed approach procedure shall be executed if the required visual reference does not exist. See missed approach, segments of an instrument approach procedure.

missed approach procedure (ICAO)

The procedure to be followed if the approach cannot be continued.

missile attack warning

The phraseology used for actual flush operations.

mist

A popular expression for drizzle or heavy fog.

mixed airspace

Airspace containing aircraft flying under either VFR or IFR. See controlled air space.

mode

The number or letter assigned to a specific pulse spacing of radio signals transmitted or received by ground interrogator or airborne transponder components of the ATCRBS.

1. mode C -- (1) A beacon radar transponder which automatically reports altitude when interrogated by a ground station. (2) Altitude reporting arrangement for secondary radar. The transponder mode used to derive altitude information.
  - a. interrogation -- Civil transponder interrogation asking for aircraft altitude.
  - b. intruder -- An aircraft which has entered a sector's airspace and is not being tracked by this sector and is transmitting Mode C altitude data which indicates the A/C is within the sector's selected altitude limits.
2. mode 2 -- A military only system.
3. mode 3/A -- (1) Transponder response for identification and tracking. (2) A beacon radar transponder which automatically reports identification

when interrogated by a ground station. (64 and 4096 codes.)

4. mode 3/C -- (1) Transponder response for automatic pressure altitude transmission. (2) A beacon radar transponder which automatically reports altitude and identification when interrogated by a ground station.
5. mode 4 -- A special military beacon mode.

#### mode/SSR mode (ICAO)

The letter or number assigned to a specific pulse spacing of the interrogation signals transmitted by an interrogator. There are 4 modes, A, B, C and D corresponding to four different interrogation pulse spacings.

#### mode request indicator

An internal program indicator whose setting at a given time may be Flat, Flat Coast, Flat Turn, Free, or Free Coast. See tracking.

#### model

To construct, or fashion, in imitation of the actual (i.e., a system model). An analytic model tends to be a set of formulae that achieve the end results; i.e., a set of calculations. A simulation model tends to construct an imitation on a more geometric sense letting the pieces come together or interact where they will.

1. empirical -- Based on past experience and an intuitive knowledge of some of the major cause and effect relationships, the limits or trends of the variables can be estimated.
2. deterministic -- Given the cause and effect or systems relationships, and assuming no uncertainty, a set of equations can be written which describes the system operation. The results are limits, since uncertainty has been ruled out.
3. probablistic -- Forms the richest set of systems models. These may range from deterministic models with random inputs to models in which the system relations themselves are considered in statistical terms.

#### modem

(1) A device which converts digital signals from a computer to signals that are compatible with telephone lines or other



communications facilities. (2) A contraction of modulator and demodulator used to designate units or equipment panels. As an example, the modulator modem for a digital data transfer channel is located at the transmitting end of the channel. The demodulator modem is located at the receiving end.

### modification

An alteration to a ground facility, system, subsystem or equipment, such that its electrical, mechanical or physical characteristics, arrangement, configuration or use has been altered. Such changes must result in; changes to record documents and/or changes in existing standards and tolerances/limits or the need for establishing new standards and tolerances/limits.

1. functional modification -- A change to currently authorized standards or tolerances/limits which requires the establishment of new standards or tolerances/limits, or results in a significant change to the end product or use. Examples are modifications which change: a radiated signal; the control or monitoring functions between a facility and a control point; the time delay required for the operation of potential relays on engine generators; or the support capability or structural integrity of a structure or building.
2. non-functional modification -- Changes to currently authorized standards or tolerances/limits which does not require the establishment of new standards or tolerances/limits, and does not result in a significant change to the end product or use. Examples are modifications which change: the waveforms or voltages within a piece of equipment; the signal level on a control line; the type of door hinges on an engine generator control panel; or the shape of a cable support bracket on a structure.
3. test modification -- An experimental modification installed in the most limited scale practical (e.g., normally on a single piece of equipment; a single channel; a single site; a single chain of sites, as in an RML system; etc.) for the development and/or evaluation of a proposed modification.
4. emergency modification -- A temporary modification installed to maintain continuity of air traffic control (e.g., in the event normal reports cannot be effected immediately because approved materials are not available). Emergency modifications shall not derogate

operational or maintenance capabilities to a point where temporary useability of the facility, system or equipment is unacceptable (e.g., beyond the limits of certifiability).

5. training modification -- A temporary modification installed to facilitate the use of a system or equipment for training purposes. Such modifications are readily removable in the event the system or equipment is placed into use in an operational environment.

#### module

(1) A part of a National Airspace System sub-system element. A module or unit is a "black box" which exists spatially and functionally distinct from other "black boxes" in the sub-system element. A module usually has its own power supplies and represents the level at which on-line redundancy is usually provided. Examples are the Data Filter Group Modules within the Data Filter Group Element and the Data Receiver Group Modules within the Radar Element. (2) A uniquely identified element of a computer program which performs a specific function or set of related functions. (3) A segment of a course (training) that may be taken independently of other parts of that course.

#### modularity

The structural or functional partitioning of systems with a view towards operational independence of the resulting modules.

#### modulation rate

The signaling speed of a data stream measured in bauds. It is the number of changes in line conditions per second. The reciprocal of the binary digit of smallest duration is the baud rate.

#### module state

See state.

#### module status

See status.

#### modulo

Separated into segments. In arithmetic it is a method of counting with an upper limit. When the limit is reached,

counting begins again. For example, the sequence in counting Modulo 3 is 0, 1, 2, 0, 1, 2, 0, . . . Modulo is often abbreviated to MOD.

#### moist adiabatic lapse rate

See saturated adiabatic lapse rate.

#### moisture

An all inclusive term denoting water in any or all of its three states.

#### monitor

(1) To check periodically, keep track off, or scrutinize the status of an item of equipment, such as in monitoring the status of a questionable NAVAID. (2) A device designed to detect when designated parameters have deviated beyond prescribed tolerance/limit, and then to activate an alarm to this effect and/or alter the operation. (3) A control program in a computer's ROM. (4) A peripheral device used to display information, such as a CRT.

#### monitoring

(1) The flight following of aircraft, whose primary navigation is being performed by the pilot, to note deviations from it's authorized flight path, airway or route. (2) See automated security monitoring, threat monitoring.

#### monochrome display

A single color video display, usually black and white, black and green or black and amber.

#### monopulse

A radar system using a receiving antenna having two or more partially overlapping lobes in the radiation pattern. Sum and difference channels in the receiver compare the amplitudes or phases of the received signal.

#### monsoon

A wind that in summer blows from sea to a continental interior, bringing copious rain, and in winter blows from the interior to the sea, resulting in sustained dry weather.

### monthly

A scheduling term, meaning once calendar month, and at approximately thirty-day intervals (25 to 35 days).

### mosaic

A device used in television camera tubes for electrical storage of the optical image to be televised.

1. mosaicking -- The process of selective rejection of redundant radar returns from radar sites with overlapping coverage to avoid double display of a single target on a single display surface.

### most probable position/MPP

The computed position of an aircraft determined by comparing a DR position and an LOP or a fix of doubtful accuracy determined for the same time, in which relative weights are given to the estimated probable error of each.

### mountain wave

A standing wave or lee wave to the lee of a mountain peak.

### movement area

The runways, taxiways, and other areas of an airport which are utilized for taxiing, take-off, and landing of aircraft, exclusive of loading ramps and parking areas. At those airports/heliports with a tower, specific approval for entry onto the movement area must be obtained from ATC.

### moving reservation

ALTRV's which encompass en route activities and advance coincident with the mission progress.

### moving target indicator/MTI

An electronic device which will permit radar scope presentation only from targets which are in motion. A partial remedy for ground clutter.

1. coherent signal, MTI -- A signal which is proportional in amplitude to the phase difference between a radar return and a reference signal.

## MULTICOM

A mobile service not open to public correspondence used to provide communications essential to conduct the activities being performed by or directed from private aircraft (FAR 87.277).

## multi-path

The propagation phenomenon that results in signals reaching the receiving antenna by two or more paths, generally with a time or phase difference between the two. The electromagnetic energy arrival at a receiver is normally the result of reflections from either the ground or from other external reflectors such as another aircraft, a structure or buildings.

## multiple access right terminal

A terminal that may be used by more than one class of users; for example, users with different access right to data.

## multiple sampling

Sampling inspection in which, after each sample is inspected, the decision is made to accept, reject or take another sample; but in which there is a prescribed maximum number of samples, after which decision to accept or reject must be reached.

note: Multiple sampling as defined here sometimes has been called "sequential sapling" or "truncated sequential sampling."

## multiplex/multiplexing

A process by which different items of information can be transmitted simultaneously in the same direction on a single circuit.

1. frequency division, multiplex/FDM -- A method of multiplexing in which the total frequency spectrum available is divided into channels, each of which occupies a particular frequency range all of the time.
2. time division, multiplex/TDM -- A method of multiplexing in which the total frequency spectrum available is used by each channel, but only for part of the time.

### multiplexor channel

A low speed data communication path, contained in the CCC's I/O control element, which is used for the attachment of I/O devices such as printers, consoles, and keyboards.

### multiple junction

More than one junction of an airway or coded route with another airway or coded route. (Example: Route A intercepts or coincides with Route B at more than one point.)

### multiplying

Providing more than (1) connection at a common point.

### multi-processing

In computer terminology, a technique for handling numerous routines or programs simultaneously by overlapping or interleaving their execution. See parallel processing.

### multi-programming

In computer terminology, a technique for handling numerous routines or programs simultaneously by overlapping or interleaving their execution.

### municipal solid waste

Garbage, refuse, sludge, wastes and other discarded materials resulting from residential and non-residential operations and activities, such as household activities, office operations and commercial housekeeping wastes.

### mutual interference

Any undesired reception of transmitted energy among elements of a group of cooperative stations. It occurs when groups of stations in close proximity use common or adjoining frequency bands in a system that has no specific provisions for multiplexing.

### mutually suspicious

Pertaining to the state that exists between interactive processes (subsystems or programs) each of which contains sensitive data and is assumed to be designed so as to extract data from the other and to protect its own data.

### nadir

The point on the celestial sphere directly beneath the observers position.

### nak attack

A penetration technique which capitalizes on a potential weakness in an operating system that does not handle asynchronous interrupts properly and, thus, leaves the system in an unprotected state during such interrupts.

### narrowband

The use of a small frequency spectrum for the band-pass of electronic communication equipment; usually in the kilo hertz range. (as opposed to broadband)

### NAS change proposal/NCP

A proposal for a change to a baseline or a configuration management item or a request for authorization of a specific site operation which is in variance with certain national criteria.

1. local NCP -- A request for authorization for a local modification or variance from national criteria.
2. national NCP -- A proposal which, if approved, results in the issuance of a CCD for system-wide modification and/or a handbook change.
3. test NCP -- A request for authorization of non-standard configuration procedures or for variance from criteria in order to conduct a test.

### NAS configuration control decision/CCD

A record of decision on a local, national or test NCP. If a change is approved, a CCD directs the action required to implement the change.

### national (of the United States)

A citizen of the United States, or a person who, although not a citizen, holds permanent allegiance to the United States.

### National Airspace System/NAS

The system of air navigation and air traffic control encompassing communication facilities, air navigation

facilities, airways, controlled airspace, special use airspace, and flight procedures authorized by Federal Aviation Regulations (FAR) for domestic and international aviation.

1. NAS documentation -- Any documents describing systems, sub-systems, procedures, etc., associated with NAS. This would include interface control documents, equipment specifications, functional specifications, requirement specifications, NAS change proposals/NCP, configuration control documents/CCD, etc.
2. NAS Stage A en route system -- An automated system of en route ATC providing alphanumeric information on en route radar displays. The Stage A will serve as the basis for the evolutionary growth of future automated system (Stage B & C). Additional systems to be incorporated include flow control, conflict detection, electronic tabular displays, etc.
3. NAS terminal system -- See ARTS.
4. NAS terminal area -- The geographic region whose boundaries are defined by latitude, longitude, and altitude parameters within which all controlled aircraft are under the jurisdiction of the ARTS III System.

#### national beacon code allocation plan airspace/NBCAP airspace

Airspace over United States territory located within the North American continent between Canada and Mexico, including adjacent territorial waters outward to about boundaries of oceanic control areas (CTA)/Flight Information Regions (FIR). See flight information region.

#### National Communications Center/NATCOM

A unique facility in Kansas City, Missouri, that provides communication switching services to the National Weather Service (NWS), the FAA, U.S. military, commercial and private flight organizations under the auspices of the FAA and the DOD. Data handled by NATCOM's five computer systems includes weather data, flight plans, and Notices to Airmen (NOTAMs) on both national and international networks.

#### national criteria

Standards which are intended to apply throughout the FAA. These standards are contained in documents issued by or under authority of a headquarters office or service.



### National Field Support Group/NFSG

The group consisting of organizations located at the FAA Technical Center and the FAA Aeronautical Center with responsibility for providing technical assistance concerning field systems and equipment problems. These organizations are the national automation engineering field support sector and the national airway engineering field support sector.

### National Flight Data Center/NFDC

A facility established by FAA to operate a central aeronautical information service for the collection, validation, and dissemination of aeronautical data in support of the activities of government, industry, and the aviation community.

### National Flight Data Digest/NFDD

Daily (except weekends and holidays) publication of flight information appropriate to aeronautical charts, aeronautical publications, Notices to Airmen or other media serving the purpose of providing operational flight data essential to safe and efficient aircraft operations.

### national flight service data base

The national flight service data base consists of weather data such as AWP-generated special aviation graphic products, hourly and special surface weather observations, PIREPs, CWP/CWSU alphanumeric products, and NWS products. The national flight service data base also contains aeronautical information such as NOTAMs, traffic flow data (traffic management summaries), preferred route information, and information concerning military operations/special-use airspace.

### national search and rescue plan

An inter-agency agreement whose purpose is to provide effective utilization of all available facilities in all types of search and rescue missions.

### national security

The national defense and foreign relations of the United States.

### nautical mile/NM

A unit of distance used in navigation, 6080 feet; the mean length of one minute of longitude on the equator; approximately 1 minute of latitude; 1.15 statute miles.

### nautical twilight

See twilight.

### navigable airspace

Airspace at and above the minimum flight altitudes prescribed in the FARs including airspace needed for safe takeoff and landing.

### navigation

(1) The service which enables a properly equipped platform to calculate its position through the interpretation of signals received from or exchanged with a source(s) external to the platform. (2) The calculation and display of airplane present position, velocity vector and related data, i.e., track angle, ground speed, drift angle, etc.

1. full service navigation -- That service required within a given airspace, without prior arrangement, to continuously satisfy the most stringent accuracy requirements of any properly equipped user in the specified airspace.
2. limited service navigation -- That service which provides continuous navigation at an accuracy less than full service; or provides intermittent navigation at the same accuracy as full service navigation.
3. navigation guidance -- With respect to RNAV systems, the calculation of steering commands to maintain the desired track from the present aircraft position.

### Navigation Aid(s)/NAVAID(s)

Any means of obtaining a fix or LOP as an aid to dead reckoning or position determination.

1. celestial -- The determination of position by reference to celestial bodies.
2. map/chart -- The determination of position by identification of land marks with their representation on a map or chart.

3. pressure differential -- The determination of the average drift, or the crosswind component of the wind effect on an aircraft for a given period of time using values of the pressure sounding.
4. radar -- The determination of position by obtaining information from a radar indicator. The radar includes airborne radar, Air Traffic Control Radar Beacon System, Surveillance Radar, Airport Surveillance Radar and Precision Approach Radar.
5. radio -- The determination of position by the use of radio facilities. There are several categories of air navigation radio aids: low/medium frequency radio range, non-directional radio beacon, VHF Omnidirectional Range, Tactical Air Navigation, and VHF Omnidirectional Range/Tactical Air Navigation/Distance Measuring Equipment. There are three classes of NAVAIDs: T (Terminal), L (Low Altitude) and H (High Altitude). Other types of navigation aids include marker beacons (FM, LFM, Station Location or Z-Markers and ILS marker beacons). Within the Instrument Landing System category there are: localizers, glide path transmitters, marker beacons, and compass locator transmitters. NAVAIDs also include voice, VHF/UHF directional finders.

#### near-midair collision/NMAC

An incident associated with the operation of an aircraft in which a possibility of collision occurs as the result of a proximity of less than 500 feet to another aircraft, or a report is received from a pilot or a flight crew member stating that a collision hazard existed between two or more aircraft. See hazardous near miss.

#### near miss

See hazardous near miss.

#### need-to-know

A term given to the requirement that knowledge or possession of classified information shall be provided only to persons whose official duties or contractual obligations require such access. Responsibility for determining the "need-to-know" of a prospective recipient rests upon the individual who has possession, knowledge or control of the information. A prospective recipient may not make the determination. He/she may only justify this access.

### negative

"No," or "permission not granted," or "that is not correct."

### negative advisory

One of the following TCAS resolution advisories: DON'T CLIMB, DON'T DESCENT. A negative advisory can be either preventive or corrective.

### negative contact

Used by pilots to inform ATC that: (1) Previously issued traffic is not in sight. It might be followed by the pilot's request for the controller to provide assistance in avoiding the traffic, (2) They were unable to contact ATC on a particular frequency.

### negative vorticity

See vorticity.

### negotiate

To discuss in order to come to a mutually acceptable agreement, as when negotiating with a pilot the technique to be used to accomplish a flight delay.

### net loss

The transmission loss at 1000 Hz in dB between two locations. The greater the number, the poorer the circuit. It is sometimes referred to as the specified equivalent or the card loss.

### network balancing

Generally, the use of an impedance matching device associated with a hybrid coil of a terminating set (telephone). The device balances the derived two wire circuit (line) for maximum return loss. Networks are of two broad types; precision and compromise. A network of this type may be referred to as a balancing net, precision net, compromise net or net.

### network channel terminal equipment/NCTE

The equipment located at the end user's premises on the local exchange company/LEC side of the network interface/NI. It provides certain functions that are inherent in the provision and maintenance of specific network channel

services in order to meet network service requirements at the NI.

1. network interface/NI -- The point of demarcation on the end user's premises at which the LEC's responsibility for the provision of its tariffed network channel services end.

#### neutral circuit

A teletypewriter operation that uses current or no-current conditions to transmit information. In the circuit, current flows in only one direction. The circuit is closed during the marking condition and open during the spacing condition. Contrast with polar circuit.

#### neutron

An electrically neutral particle of approximately unit mass, present in all atomic nuclei, except those of ordinary hydrogen.

#### NEXRAD

1. NEXRAD product -- The weather radar products produced by NEXRAD. The basic products produced are: (1) reflectivity maps which provide echo-intensity data displayed as an image, (2) velocity maps which provide the mean radial velocity data displayed as an image, and (3) spectrum width maps which provide the mean radial velocity spectrum width data displayed as an image.

#### next fix

See flight plan next fix, track next fix.

1. next posted fix -- The first posted fix on the flight plan route whose computer time of arrival (CTA) exceeds present time. This term has meaning only for active flight plans.

#### nicad battery

A nickel-cadmium battery used for backup power in the CCC.

#### night

The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time.

### night (ICAO)

The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise as may be specified by the appropriate authority.

note -- Civil twilight ends in the evening when the center of the sun's disk is 6° below the horizon and begins in the morning when the center of the sun's disk is 6° below the horizon.

### nimbostratus

A principal cloud type, gray colored, often dark, the appearance of which is rendered diffuse by more or less continuously falling rain or snow, which in most cases reaches the ground. It is thick enough throughout to blot out the sun.

### no gyro approach/vector

A radar approach/vector provided in case of a malfunctioning gyro-compass or directional gyro. Instead of providing the pilot with headings to be flown, the controller observes the radar track and issues control instructions "turn right/left" or "stop turn" as appropriate. (Refer to AIM)

### no-op

To discontinue communications with a device with no notification of unsuccessful transmission.

### noctilucent clouds

Clouds of unknown composition which occur at great heights, probably around 75 to 90 kilometers. They resemble thin cirrus, but usually with a bluish or silverish color, although sometimes orange to red, standing out against a dark night sky. They are rarely observed.

### node

The end point of an adapted straight line segment defined by latitude/longitude.

### noise

(1) The unwanted result of thermal processes in amplifiers, active switches, etc. (2) The combined effect of radio

frequency interference, crosstalk and other interfering processes.

1. noise, impulse (digital data communications) -- A shift in binary digits in data communications systems. It occurs from many causes, and is statistically non-predictable, and therefore very difficult to combat.
2. noise, thermal -- Random electrical fluctuations generated in the radar receiver.

#### noise attenuation of buildings

The modification of structures to enhance their properties and characteristics to reduce exterior and interior noise through absorption, transmission loss and reflection of sound energy.

#### Noise Exposure Forecast/NEF

A weighing system for measuring noise levels in the vicinity of airports.

#### noise figure

The amount of electronic noise introduced by a piece of equipment over the basic thermal noise that is present. It represents the relationship of the signal-to-noise ratio at the input of a device to the signal-to-noise ratio at its output.

#### noise filter

A combination of electrical components that inhibits extraneous signals from passing through or into an electronic circuit.

#### noise level

The strength of extraneous audible sound in a given location, or the strength of these signals in an electronic circuit. It is usually measured in dB.

#### noise level reduction/NLR

A measurement of the effectiveness of structural shielding materials to reduce the amount of acoustical energy. For a given structure, NLR may vary with the source of frequency content.

### noise sensitive area

Locations where aircraft noise may interfere with existing or planned use of the land. Whether noise interferes with a particular use depends upon the level of noise exposure and the types of activities which are involved. Residential neighborhoods, educational, health and religious structures and sites, outdoor recreational, cultural and historic sites may be noise sensitive areas. Whether noise interferes with a particular use depends upon the level of noise exposure received and the type of activities involved. A site which is unacceptable for outside use may be acceptable for use inside a structure, if adequate noise attenuation features are built into that structure.

### noise, white (digital data communications)

White noise occurs in a statistical random sequence with fairly well defined properties and may be compensated for by thorough proper receiver design.

### noise weighting

The proper interfering effect when noise currents are converted to sound. The weighting networks integrate the noise power over the voice frequency range by giving each small band of frequencies a weighting proportional to its contribution to the total interfering effect. Several types of weighting networks are built into noise measuring sets.

### non-approach control tower

Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the airport traffic area. The primary function of a non-approach control tower is the sequencing of aircraft in the traffic pattern and on the landing area. Non-approach control towers also separate aircraft operating under instrument flight rules clearances from approach controls and centers. They provide ground control services to aircraft, vehicles, personnel, and equipment on the airport movement area.

### non-composite separation

Separation in accordance with minima other than the composite separation minimum specified for the area concerned.

### non-compulsory radio fix

A geographical position determined from radio NAVAIDS that occurs at a Non-Compulsory Reporting Point.



### non-compulsory reporting points

Reporting points that are optional to the pilot. These points are given on aeronautical charts and in non-compulsory radio fixes.

### non-control information

Any information transferred from a controller or flight service specialist to a pilot (or from a pilot to a controller/flight service specialist) which is not directly related to air traffic control.

### non-daily

A reporting interval which occurs on other than a daily basis.

### Non-Directional Beacon, low/medium frequency (homing beacons)/NDB

The low or medium frequency non-directional radio beacon, or homing facility, was one of the earliest electronic navigation aids adopted by the FAA for radio navigation. Homing beacons are installed at various locations to provide either navigation fixes or homing points. When a radio beacon is used in conjunction with the Instrument Landing System markers, it is called a Compass Locator. The typical low or medium frequency radio beacon transmits non-directional signals whereby the pilot of an aircraft properly equipped can determine his bearing and "home" on the station. These facilities normally operate in the frequency band of 190 to 535 kHz and transmit a continuous carrier with either 400 or 1020 Hz modulation. All radio beacons except the compass locators transmit a continuous three-letter identification in code except during voice transmissions. Voice transmissions are made on radio beacons unless the letter "W" (without voice) is included in the class designator (HW). There are four types of non-directional homing facilities in use:

1. HH facilities -- Facilities which have a power output of 2,000 or more watts and a reception range of 75 nautical miles. This type of facility is generally used with over-water routes.
2. H facilities -- Facilities which have a power output of 50 to 1999 watts and a reception range of 50 nautical miles.

3. MH facilities -- Facilities which have a power output of less than 50 watts and a reception range of 25 nautical miles.
4. ILS compass locator facilities -- Facilities which have a power output of less than 25 watts and a reception range of 15 nautical miles. They are designated as LOM (Outer Marker) and LMM (Middle Marker), appropriate to the outer and middle beacon sites where they are located.

#### non-discrete code

A radar beacon Mode 3/A assigned to more than one aircraft within a specific geographical area. Currently, a four octal digit code in which the last two digits are zeros. See discrete code.

#### non-ionizing radiation

The less energetic forms of electromagnetic radiation, such as near ultraviolet, visible light, infrared, microwave, radio and electrical power.

#### non-linear distortion

The generation of signal components from the transmitted signal that add to the transmitted signal usually in an undesired manner.

#### non-maskable interrupt/NMI

An interrupt to a computer program which the CPU cannot ignore or disable.

#### non-occupational exposure

Exposure to a hazard which occurs outside a controlled area or to a visitor to a controlled area.

#### non-oceanic FPA

A FPA not adapted as oceanic, within which straight-line computations is performed.

#### non-precision approach procedure

Means a standard instrument approach procedure in which no electronic glide slope is provided and does not imply an unacceptable quality of course guidance. See precision approach procedure.

### non-print function

An teletype operation which does not result in a printed character, such as: figures-letters shift, etc. See function.

### non-radar

Precedes other terms and generally means without the use of radar, such as:

1. non-radar approach -- Used to describe instrument approaches for which course guidance on final approach is not provided by ground based precision or surveillance radar. Radar vectors to the final approach course may or may not be provided by ATC. Examples of non-radar approaches are VOR, NDB, TACAN, and ILS/MLS approaches. See final approach-IFR, final approach course, radar approach, Instrument Approach Procedure.
2. Non-radar Approach Control -- An ATC facility providing approach control service without the use of radar. See approach control, approach control service.
3. non-radar arrival -- An aircraft arriving at an airport without radar service or at an airport served by a radar facility and radar contact has not been established or has been terminated due to a lack of radar service to the airport. See radar arrival, radar service.
4. non-radar route -- A flight path or route over which the pilot is performing his own navigation. The pilot may be receiving radar separation, radar monitoring, or other ATC services while on a non-radar route. See radar route.
5. non-radar separation -- The spacing of aircraft in accordance with established minima without the use of radar; e.g., vertical, lateral, or longitudinal separation. See radar separation.

### non-radar separation (ICAO)

The separation used when aircraft position information is derived from services other than radar.

#### non-real-time programs

Programs that operate on static data where the time of operation is not dependent on the time when the data was gathered.

#### non-record material

Records having no administrative, fiscal, legal or other historical value. These include but are not limited to, stocks of publications, library material, duplicate papers of record material such as day files, reading files, etc., and papers of a transitory value such as drafts, worksheets, informational notes and route slips.

#### non-reinforced beacon return

A beacon message without search radar reinforcement whose correlation criteria requires that the search and beacon target reports fall within the same 1/4 mile range cell and overlap in azimuth such that the leading edge threshold is achieved for either target prior to detection of trailing edge of the other target.

#### non-renewable energy source

Resources such as fuel oil, gasoline, natural gas, liquified petroleum gas, coal, and purchased steam or electricity generated from such resources.

#### non-retriable I/O error

An error is declared non-retriable when an I/O operation cannot be initiated or completed with a given device via a specific path after "N Times Retry". See unsuccessful I/O operation, retry.

#### non-standard spare parts

Replaceable parts (often called parts peculiar) that are unique in characteristic or function to the degree that they are not readily obtainable from sources other than the prime contractor.

#### non-synchronous garble

Transponder responses inadvertently picked up by a given interrogator different from the one triggering the response. The result is that the ground station picks up a signal that is not synchronous with the interrogation signal, also called total fruit.

#### non-transient error

A hardware error for which it is determined that re-try (see re-triable error) is either not possible or not likely to be successful. This is an error whose cause must be found and corrected before error-free processing can be resumed.

#### non-uniform time update

An output message alerting the controller to significant time change caused by different time increments at each fix for a given flight.

#### non-validated beacon return

A beacon return that is considered invalid if, during the processing of a target, two consecutive replies to interrogations of the same Mode 3/A or C do not compare identically.

#### non-volatile storage

Computer storage such as magnetic tape, punch cards, etc., that retains information placed on it even in the absence of electric or electronic power.

#### no-op

To discontinue communications with a device with no notification of unsuccessful transmission.

#### NORAD command and control identifiers/CCI's

The method by which the NORAD air defense system reports command and control structure within the regions. CCI's include command location and tactical control source. The tactical control source is the facility/facilities providing tactical control.

#### NORAD region

A geographical subdivision of the area for which NORAD is responsible.

#### NORDO

See lost communications.

### normal

In meteorology, the value of an element averaged for a given location over a period of years and recognized as a standard.

### normal mode

The normal mode of operation of a sub-system performing all of its required allocated functions to the specified performance.

### north

A cardinal point located a 0°.

1. compass north -- The direction indicated by the north seeking end of a compass needle.
2. grid north/GN -- An arbitrarily selected direction of a rectangular grid. In grid navigation the direction of the 180° geographical meridian from the pole is almost universally used as standard grid north.
3. magnetic north/MN -- The direction towards the north magnetic pole from an observers position.
4. true north/TN -- The direction from an observers position to the geographical North Pole. The north direction of any geographical meridian.

### North American Route

A numerically coded route preplanned over existing airway and route systems to and from specified coastal fixes serving the North Atlantic. North American Routes consist of the following:

1. common route/portion -- That segment of a North American Route between the inland navigation facility and the coastal fix.
2. non-common route/portion -- That segment of a North American Route between the inland navigation facility and a designated North American terminal.
3. inland navigation facility -- A navigation aid on a North American Route at which the common route and/or the non-common route begins or ends.

4. coastal fix -- A navigation aid or intersection where an aircraft transitions between the domestic route structure and the oceanic route structure.

#### Notice to Airmen/NOTAM

A notice identified either as a NOTAM or AIRAD containing information concerning the establishment, condition, or change to any components of (or hazard in) the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

1. NOTAM request -- A request made usually by a pilot (normally prior to a flight) to a flight service specialist or controller (during a flight) for any appropriate NOTAM information.
2. NOTAM changes and annotations -- Actions taken by NFDC U.S. NOTAM Office work station operators as part of the NOTAM editing process.
3. NOTAM summary/NOSUM -- A compilation of current NOTAMS in abbreviated plain language.
4. NOTAM (D) -- A NOTAM given (in addition to local dissemination) distant dissemination via teletypewriter beyond the area of responsibility of the FSS. These NOTAMS are stored and repeated hourly until canceled.
5. NOTAM (L) -- A NOTAM given local dissemination by voice, (Teletypewriter where applicable), and a wide variety of means such as : teleautograph, teleprinter, facsimile reproduction, hot line, telecopier, telegraph and telephone to satisfy local user requirements.
6. FDC NOTAM -- A notice to airman, regulatory in nature, transmitted by NFDC and given all circuit dissemination.

#### Notice to Airman/NOTAM (ICAO)

A notice, containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

#### Notices to Airmen publication

A publication designed primarily as a pilot's operational manual containing current NOTAM information considered

essential to the safety of flight as well as supplemental data to other aeronautical publications.

nuclear weapon accident/Broken Arrow

An unexpected event involving nuclear weapons or nuclear components which results in: accidental or unauthorized launching, firing or use by U. S. forces or U. S. supported Allied forces, or a nuclear capable weapon(s) system which could create the risk of war; nuclear detonation; non-nuclear detonation/burning of a nuclear weapon; radioactive contamination; seizure, theft or loss of a nuclear weapon or nuclear component, including jettisoning; or a public hazard, actual or implied.

nuisance alert

An unwarranted alert message to a specialist, warning of a present or predicted unsafe situation.

null

A term applied to weak portions of an antenna radiation pattern. Nulls, in general, are small typically subtending only a few square degrees.

numerical forecasting/numerical weather prediction

Forecasting by digital computers solving mathematical equations. It is used extensively in weather services throughout the world.

numerous targets vicinity (location)

A traffic advisory issued by ATC to advise pilots that targets on the radar scope are too numerous to issue individually. See traffic advisories.

NWS products

NWS products include all products that are generated by the NWS for use by the NAS. This includes all NWS charts and graphs; alphanumeric products such as various forecasts, observations, and summaries; and binary-grids products such as the aviation route forecast (ARF).



### obscuration

Denotes sky hidden by surface based obscuring phenomena and vertical visibility restricted overhead.

### obscuring phenomena

Any hydrometeor or lithometeor other than clouds. May be surface based or aloft.

### obstacle

An existing object, object of natural growth, or terrain at a fixed geographical location or which may be expected at a fixed location within a prescribed area with reference to which vertical clearance is or must be provided during flight operation.

### obstruction

An existing object, object of natural growth, or terrain at a fixed geographical location, or which may be expected at a fixed location within a prescribed area, with reference to which vertical clearance is or must be provided during flight operation. For example, with reference to mobile objects, a moving vehicle 17 feet high is assumed to be on an Interstate highway, 15 feet high on other highways, and 25 feet high on a railroad track, except where limited to certain heights controlled by use on construction. The height of a ship's mast is assumed according to the type of ships known to use an anchorage.

1. obstruction clearance -- The vertical distance between the lowest authorized flight altitude and a prescribed plane within a specific area.
2. obstruction clearance boxes -- When used in figures which depict approach segments these boxes indicate the obstruction clearance requirements in feet.

### obstruction light

A light or one of a group of lights, usually red or white, frequently mounted on a surface structure or natural terrain to warn pilots of the presence of an obstruction.

### obstruction to vision

This would include various atmospheric phenomena, such as rain, hail, snow, fog, dust, smoke, smog, haze, etc.

### occlusion/occluded front

A composite of two fronts as a cold front overtakes a warm front or quasi stationary front.

### occupational exposure

Exposure to a hazard such as chemicals, toxins, ionizing radiation, etc., which occurs to a worker assigned to a controlled area.

### oceanic conflict probe

A function which will determine from an aircraft's flight plan data as projected along its flight plan. flight path. profile if it will infringe upon any airspace reservation or another aircraft's projected flight plan.

### oceanic FPA

A FPA within which great circle computations, oceanic posting and processing are performed.

### oceanic route(s)

Routes generally depicted on position reporting charts to facilitate flight planning and position reporting while conducting flight in ICAO oceanic control areas.

### octal digit

The numeric system of notation which uses 8 as the base or radix.

### off-hook

The condition presented to the EVS System when the calling termination has requested service. This user request can either be initiated by a position or by a trunk circuit.

### off-line

(1) That portion of a computer system that comprises the redundant elements for the on-line system, such as auxiliary equipment or output devices not under control of the central processing unit. (2) Not in the loop. Paper tapes frequently are punched "off-line" on an ASR and then transmitted using the TD. See status.

1. off-line storage -- Off line/archive storage pertains to voice/data information archive in a storage facility. This information is not immediately

available through an automated random access capability. Retrieval of off-line/archive storage information would require the aid of a specialist to locate, mount, and initiate a magnetic tape reel search.

#### off-line crypto-operations

Encryption or decryption performed as a self contained operation distinct from the transmission of the encrypted text, as by hand or by machines not electrically connected to a signal line.

#### off-line solenoid

An electrically controlled magnet used to prevent printing.

#### off-route vector

A vector by ATC which takes an aircraft off a previously assigned route. Altitudes assigned by ATC during such vectors provide required obstacle clearance.

#### off-set parallel runways

Staggered runways having centerlines which are parallel.

#### off-set point

A point in space relative to a target's path toward which an interceptor is vectored or from which the final attack heading or turn is made.

#### off-shore controlled airspace

Designated airspace over the high seas within which the United States has accepted the responsibility of providing air traffic services. This service is provided in a manner consistent with that adopted for airspace under its domestic jurisdiction.

#### off-the-shelf items

Commercial items of equipment and/or test equipment, utilized in the NAS, which are sold in substantial quantities to the general public at established catalog or market prices.

#### office of primary interest/OPI

The organizational element primarily affected by decisions or actions of the OPR and held accountable for proper

responsiveness, coordination and feedback, prior to assumption of OPR status in the next sequence of events, is considered the office of primary interest.

office of primary responsibility/OPR

The organizational element held accountable for taking appropriate action or for making a decision between alternatives at a specific turn of events is considered the office of primary responsibility.

Official Airline Guide/OAG

A commercial product which contains commercial air carrier schedules, usually provided digitally four times a month to the TMP. These data provide a basis for estimation of future airspace demand.

official information

Information which is owned by, produced for or by, or subject to the control of the United States Government.

on course

(1) Used to indicate that an aircraft is established on the route centerline. (2) Used by ATC to advise a pilot making a radar approach that his aircraft is lined up on the final approach course. See on-course indication.

on-course indication

An indication on an instrument, which provides the pilot a visual means of determining that the aircraft is located on the centerline of a given navigational track, or an indication on a radar scope that an aircraft is on a given track.

on-line

(1) That portion of a computer system that is actively processing the NAS authorized program. (2) Pertains to I/O devices; interfaced with the operational program. In the loop. Implies direct input. See status.

1. on-line storage -- Storage facilities allowing immediate access to information (voice and/or data) recorded within the past 24 hours.

### on-line crypto-operation

The use of crypto-equipment that is directly connected to a signal line, making single continuous processes of encryption and transmission or reception and decryption.

### on-line high-speed printer

A high speed printer assigned to an operational program.

### one(s)

The affirmative value of a binary bit.

### one-way tone circuit

A telephone circuit carrying tone control signals in one direction only in addition to two-way speech signals. An example of this circuit is a channel between an ARTCC and an RCAG, with the transmitting direction being from the ARTCC toward the RCAG. Voice-frequency control signals are sent by a subsystem for the purpose of selecting main and standby equipment, changing frequencies and keying transmitters on. No control or status signals are received over the voice-grade receiving leg from the RCAG. If the one-way tone circuit involves a four wire transmission facility, the sending leg is the only one handling tones. The receiving leg will have the same 1000 Hz net loss as the transmitting leg.

### open line

A signal line in which current has stopped for a period equal to, or more than, the time required to transmit one complete character.

### operate

With respect to aircraft, means use, cause to use or authorize to use aircraft for the purpose of air navigation including the piloting of aircraft, with or without the right of legal control (as owner, lessee, or otherwise).

### operation

With respect to communication systems, that process or series of events that result in either the printing of a character or the performance of a function.

### operational equipment

Equipment that is in actual use for the control of air traffic.

### operating agency

The individual (pilot-in-command) or group of individuals (ARTCC) who have operational control of the conduct of any particular flight.

### operating stock

The quantity of material stored on-site to meet anticipated operating requirements during the interval between replenishment actions, based on the annual demand value of each item.

### operating system/OS

An integrated collection of service routines for supervising the sequencing and processing of programs by a computer. Operating systems control the allocation of resources to users and their programs and play a central role in the operation of a computer system. Operating Systems may perform debugging, input-output, accounting, resource allocation, compilation, storage assignment tasks and other system related functions.

### operating time

The length of the interval measured from the initiation to the completion of a process (e.g., the execution of a sub-program).

### operating tolerance/limit

The maximum deviation from the standard value of a parameter, or the range within which normal functioning can continue without adjustment or corrective maintenance, and beyond which remedial action by maintenance personnel is mandatory.

### operational advantage

An improvement which benefits the users of an instrument procedure. Achievement of lower minimums or authorization for a straight in approach with no derogation of safety are examples of an operational advantage. Many of the options in TERPS are specified for this purpose. For instance the flexible final approach course alignment criteria may permit

the ALS to be used for reduced visibility credit by selection of the proper optional course.

#### operational characteristic/OC curve

The quality curve which shows for a particular sampling plan the relationship between the fraction defective in a lot and the probability that the sampling plan will accept the lot.

#### operational computer program

(1) That set of computer sub-programs which provide the selected operational functions for NAS. (2) Computer programs for the control of air traffic which have reached Initial Operating Capability/IOC at the first field site.

#### operational control

With respect to a flight, means the exercise of authority over initiating, conducting, or terminating a flight.

#### operational control program

That set of computer sub-programs which provide the selected operational functions for the NAS.

#### operational control transmission

The transmission of operational control signals concerning the operational condition of a specific piece of equipment or sub-system. This would include such information as on/off status, channel selection, light intensity level selected, etc.

#### operational data security

The protection of data from either accidental, unauthorized, intentional modification, destruction or disclosure during input, processing or output operations.

#### operational hardware

Equipment that has reached an operational capability in the field, maintenance has been assumed by the agency, and ownership and responsibility have been transitioned to regional control.

#### operational readiness date/ORD

The date on which a new or improved facility or system satisfies JAI construction, installation, performance,

operation and maintenance criteria, and is ready to be placed into operational use.

operational shakedown

A series of tests conducted to verify the design capabilities of a Model with all hardware, software, operational personnel, and physical resources operating as a complete sub-system. See category, testing.

operational sub-system

That portion of the Central Computer complex (CCC) and the external I/O equipment on-line to it which is used to execute the operational programs.

operator

(1) Any person who causes or authorizes the operation of an aircraft, such as the owner, lessee or bailee of an aircraft. (2) Any person in control of, or having the responsibility for the daily operation of a fuel bulk storage system.

optical disk system

A configuration of electronically connected equipment that scans, records, stores, retrieves and prints documents or images.

1. optical disk -- A laser recorded medium that can electronically store up to 80,000 pages or images per disk in Write Once Read Many/WORM format or 300,00 pages per disk for the Compact Disk Read Only Memory.

optimum

(1) The best or most desirable condition or degree. (2) Most favorable. As used in TERPs, optimum identifies the value which should be used wherever a choice is available.

optimum flight plan

An adapted flight path or arrival normally will fly from a transition point to the adapted vortex.

option approach

An approach requested and conducted by a pilot which will result in either a touch-and-go, missed approach, low approach, stop-and-go, or full stop landing. See cleared for the option. (Refer to AIM)



### organized track system

A moveable system of oceanic tracks that traverses the North Atlantic from Europe to North America the physical position of which is determined twice daily by taking the best advantage of the winds aloft.

### original classification

An initial determination that information requires, in the interest of national security, a specific degree of protection against unauthorized disclosure together with a designation signifying that such a determination has been made.

### orographic

Of, pertaining to, or caused by mountains as in orographic clouds, orographic lift, or orographic precipitation.

### oscillating rail

A rail in a printer which moves about two fixed pivot points through a small arc to place the typebox.

### other maintenance task

Any periodic scheduled task other than a performance check that is necessary to prevent deterioration and/or ensure reliable operation of the system, subsystem or equipment. These tasks are not performance checks. Periodic maintenance activities prescribed in maintenance technical directives are separated into "performance checks" and "other maintenance tasks."

### out

The conversation is ended and no response is expected.

### out of band signaling

Transmission of signals by frequencies outside the voice band.

### outbound coordination fix

The coordination fix transmitted to an approach control or adjacent center.

### outbound fix

The first converted fix traversed by an aircraft after crossing the control area boundary upon leaving the control area.

### output

Information transferred from the computer to a disk/tape drive, video display, printer, peripheral device or another computer.

### output equipment

The equipment used to transfer information out of a computer.

### output level (composite picture signal)

In a video display, the peak-to-peak voltage of a composite picture signal is the difference between its most positive potential and its most negative potential expressed in volts.

### output printer

A device that prints computer messages or displays in hard copy form.

### outer area

Non-regulatory airspace surrounding designated ARSA airports wherein ATC provides radar vectoring and sequencing on a full-time basis for all IFR and participating VFR aircraft. The service provided in the outer area is called ARSA service which includes: IFR/IFR--standard IFR separation; IFR/VFR--traffic advisories and conflict resolution; and VFR/VFR--traffic advisories and, as appropriate, safety alerts. The normal radius will be 20 NM with some variations based on site-specific requirements. The outer area extends outward from the primary ARSA airport and extends from the lower limits of radar/radio coverage up to the ceiling of the approach control's delegated airspace excluding the ARSA and other airspace as appropriate. See controlled airspace -- Airport Radar Service/ARSA, conflict resolution.

### outer fix

(1) A fix in the destination terminal area, other than an approach fix, to which aircraft are normally cleared by an air route traffic control center or a terminal area traffic control facility, and from which aircraft are cleared to the

approach fix or final approach course. (2) An adapted fix along the converted route of flight, prior to the meter fix, for which crossing times are calculated and displayed in the metering position list.

#### outer fix time/OFT

A calculated time to depart the outer fix in order to cross the vertex at the ACLT. The time reflects descent speed adjustments and any applicable delay time that must be absorbed prior to crossing the meter fix.

#### outer marker/OM

A marker beacon at or near the glide slope intercept altitude of an ILS approach. It is keyed to transmit two dashes per second on a 400 Hz tone, which is received aurally and visually by compatible airborne equipment. The OM is normally located four to seven miles from the runway threshold on the extended centerline of the runway. See marker beacon, Instrument landing System. (Refer to AIM)

#### out-pulsing

The process of transmitting digital address information over a trunk from an EVS System to another switching center. The latter may be either another EVS System, FTS, AUTOVON or commercial facility.

#### output

(1) The information transferred from the internal storage of a computer to secondary or external storage; or to any device outside of the computer. (2) The routines which direct 1, (3) The device or collective set of devices necessary for 1, (4) To transfer from internal storage on to external media.

#### over

My transmission is ended; I expect a response.

#### over-flight

A flight traversing a given center or approach control area.

1. over-flight effects -- The effect of a passing aircraft on an ILS localizer signal.

#### overflow (over capacity)

The generation of a quantity beyond the capacity of the computer register or location which is to receive the result.

#### over-head approach/360 overhead

A series of predetermined maneuvers prescribed for VFR arrival of military aircraft (often in formation) for entry into the VFR traffic pattern and to proceed to a landing. The pattern usually specifies the following: the radio contact required of the pilot, the speed to be maintained, an initial approach of 3 to 5 miles in length, an elliptical pattern of two 180° turns, a break point at which the first 180° turn is started, the direction of turns, altitude (at least 500 feet above the conventional pattern), and a "roll-out" on final approach not less than 1/4 mile from the landing threshold and not less than 300 feet above the ground.

#### over-interrogation

Excessive ground interrogation of a transponder; the result is a loss of reliability of information delivered to the ground station because of a lack of time within which the transponder can completely respond to a given interrogation.

#### over-the-top

Above the layer of clouds or other obscuring phenomena forming the ceiling.

#### overlap condition

Exists whenever a radar datum falls in the primary search area of more than one track.

#### overlap factor

The total area of all PVD's in an ARTCC divided by the total radar sort box area of the center.

#### override

In an ARTCC controller environment it is the capability to inform a called party that he has an important call, even though he may have another call in progress.

### overseas air commerce

The carriage by aircraft of persons or property for compensation or hire, or the carriage of mail by aircraft, or the operation or navigation of aircraft in the conduct or furtherance of a business or vocation, in commerce between a place in any State of the United States, or the District of Columbia, and any place in a territory or possession of the United States; or between a place in a territory or possession of the United States, and a place in any other territory or possession of the United States.

### overseas air transportation

The carriage by aircraft of persons or property as a common carrier for compensation or hire, or the carriage of mail by aircraft, in commerce: between a place in a State or the District of Columbia and a place in a possession of the United States; or between a place in a possession of the United States and a place in another possession of the United States; whether that commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

### overseas SAR region

Overseas unified command areas, including the inland area of Alaska, which are not included within the Inland Region or Maritime Region as defined by the National SAR Plan.

### overwriting

The obliteration of recorded data by recording different data on the same surface.

### ozone

An unstable form of oxygen, with heavier concentrations are in the stratosphere. It is corrosive to some metals, and absorbs most ultraviolet solar radiation.

### Pacific Island Air Defense Region/PIADR

A geographical subdivision of the USPACOM area for which the Air Component Commander is responsible for air defense.

### Pacific Military Altitude Reservation Facility/PACMARF

A USAF facility established for the purpose of coordinating altitude reservations within their area of responsibility.

### pacing airport

An airport whose capacity can affect the NAS on a system-wide basis. There are currently 23 pacing airports.

### pad

The filling of the unused portion of a field (e.g., by a single depression of the space bar).

### pairing factor

The average number of radar areas of coverage which a plan view display overlaps in an ARTCC.

### pairing

A computer program process which identifies that certain stored track information and certain stored flight plan information, refer to the same flights.

1. paired flight -- A flight for which the computer has stored both a flight plan and a track that have been cross-referenced with the pairing process.
2. paired flight plan -- The flight plan of a paired flight. See flight plan.
3. paired track -- The track of a paired flight. See track.

### pallet

(1) An extension on a die which, when struck by the printing hammer, will drive the die into an inked ribbon and apply the impression of the die character to the paper producing a printed character. (2) A portable platform on which material (usually a quantity of the same item) may be placed to facilitate stacking upon and under other pallets similarly loaded, as well as lifting and carrying by material-handling equipment.

### pan-pan

The international radio-telephony urgency signal. When repeated three times, indicates uncertainty or alert followed by the nature of the urgency. See mayday. (Refer to AIM)

### parachute

A device used or intended to be used to retard the fall of a body or object through the air.

### parallel

A method of communicating digital information in which several data bits are transmitted simultaneously, each over its own line.

### parallel ILS/MLS approaches

Approaches to parallel runways by IFR aircraft which, when established inbound toward the airport on the adjacent final approach courses, are radar-separated by at least 2 miles. See final approach course, simultaneous ILS/MLS approaches.

### parallel offset path/route

A parallel track to the left or right of the designated (established) or "parent" airway/route, specified in nautical miles of offset distance. Normally associated with area navigation (RNAV) operations. See area navigation.

### parallel processing

A computer hardware/software technique in which each of two or more computing elements of a computer system is capable of simultaneously and independently operating on the same set of data or instructions stored in memory. See programming, multiple.

### parallel runways

Two or more runways at the same airport whose centerlines are parallel. In addition to runway number, parallel runways are designated as L (left) and R (right) or, if three parallel runways exist, L (left), C (center), and R (right).

### parallel transmission

Simultaneous transmission of the bits composing a character, either over separate wires or channels or on different

carrier frequencies on one channel. Contrast with serial transmission.

### parameter

(1) A computer program constant or equipment adjustment which is set to a value that may be varied incrementally within a specified range according to operational requirements. (2) A quantity which specifies operating conditions or configurations. (3) The description of variable data and tables. (4) A quantity whose value varies with the circumstances of its application. Three types are defined:

1. system parameter -- A fixed parameter whose value is set only at source information assembly time and is not dynamically changeable.
2. center parameter -- A dynamic parameter valid for a specific operation on a center wide basis.
3. special parameter -- A dynamic or non-dynamic limited use parameter valid only for the airport or adjacent facility to which it is adapted.

### parameter testing

Parameter tests are tests run on sub-programs to uncover logic and arithmetic errors before attempting to mate two or more sub-programs for assembly testing. Each program parameter is varied to its limits, and each logical path through the program is checked.

### parcel

A small volume of air, small enough to contain uniform distribution of its meteorological properties, and large enough to remain relatively self contained and respond to all meteorological processes. No specific dimensions have been defined, however, the order of magnitude of one cubic foot has been suggested.

### parity

A method used to check the validity of data that is stored, transmitted or received.

### parity bit

An extra bit in data signaling, indicating either odd or even character or block combinations of binary elements for the purpose of detecting transmission errors. The check



bit indicates whether the total number of binary "1" digits in a character or word (excluding the parity bit) is odd or even. If a "1" parity bit indicates an odd number of "1" digits, then a "0" bit indicates an even number of them.

1. parity check -- Checking that tests whether the number of ones (or zeros) in an array of binary digits is odd or even.

#### part

(1) A one-piece element designed to perform a simple function in an assembly, module, component, unit, equipment or facility. (2) An element of a sub-assembly, or an assembly, of such construction that it is not practical to disassemble the element for maintenance purposes.

#### partial joint acceptance inspection

An intermediate step of the JAI process accomplished for a specific purpose prior to the final JAI. Partial JAI's provide for a manageable progression to the final JAI. See joint acceptance inspection.

#### partial obscuration

A designation of sky cover when part of the sky is hidden by surface based obscuring phenomena.

#### participating aircraft

Only those aircraft engaged in, and part of, the activity being conducted.

#### pass

One cycle of processing a body of data.

#### password

A protected word or string of characters that identifies or authenticates a user, a specific resource, or an access type. Synonymous with keyword.

1. password dialogue -- Synonym for handshaking procedure.

#### pawl

A mechanical unit which causes advancement of motion of another unit in only one direction. This is done by the pawl pushing, or sometimes pulling, on a tooth of the other unit.

### peak-to-average ratio/P/AR

A formula using the ratio of peak voltage of a signal to the full-wave rectified average voltage. P/AR is a test to measure a telephone line's bandwidth and non-linearity and, therefore, its ability to effectively pass data.

### penetration

(1) That portion of a published high altitude instrument approach procedure which prescribes a descent path from the fix on which the procedure is based to a fix or altitude from which an approach to the airport is made. (2) A successful unauthorized access to an AIS.

### penetration signature

(1) The description of a situation or set of conditions in which an AIS penetration could occur. (2) The description of usual or unusual system events which in conjunction can indicate the occurrence of a penetration in process.

1. penetration profile -- A delineation of the activities required to effect a penetration.
2. penetration testing -- The use of special programmer/analyst teams to attempt to penetrate a system for the purpose of identifying any security weaknesses.

### perceive

To become aware of an action as it evolves over time, such as an aircraft deviation or a tracking fault.

### percent break

The ratio of the open-circuit or tone OFF time to the time allocated to a single pulse in a digital address.

### percent defective

That proportion of a lot which is defective.

### perforator

A unit by which signalling code may be punched into a paper tape. The tape punch which is controlled mechanically is used for punching tape off-line.

## perform

Carry out a standard procedure or operation, such as logging on at the Sector Suite workstation.

## performance check

A periodic scheduled test, measurement or observation of normal operating controls and functions, which is necessary to determine whether a system, subsystem or equipment is operating within its established tolerances or limits (i.e., doing its job satisfactorily at a given time). Periodic maintenance activities prescribed in maintenance technical directives are separated into "performance checks" and "other maintenance tasks." This term is also used in maintenance technical handbooks to mean a procedure required to evaluate the performance of a system, subsystem or equipment rather than just the description of the activity. See other maintenance task.

## performance measures

Based on determined optimal parameters, a set of merit criteria established for the measurable functions under study. A quantitative indicator of how well a system (or unit) is functioning. Examples include capacity, accuracy, response time, etc.

## performance monitoring

A feature of the TCAS equipment that implements the function of measuring critical physical or software TCAS quantities to determine the operating capability of the TCAS equipment. The performance monitoring function is initiated routinely and automatically by the TCAS equipment; no flight crew or external stimulation is required. The performance monitor feature of the TCAS equipment also provides to the pilot an indication of the operating status of the equipment.

## performance standard

An established range of values of a system (or unit) performance measure within which the sub-system is required to operate.

## periodic

An occurrence or recurrence at regular intervals.

1. periodic maintenance -- Any scheduled preventative maintenance activities that include performance checks

and/or other maintenance tasks which occur on a regular basis.

peripheral

Any equipment which is connected to a computer, including video displays, printers, modems, etc,

peripheral adapter module/PAM

A CCC Element which is used for the control and transmission of data between the peripheral devices (excluding displays) and the I/O control elements.

permanent echo

Radar signals reflected from fixed objects on the earth's surface; e.g., buildings, towers, terrain. Permanent echoes are distinguished from "ground clutter" by being definable locations rather than large areas. Under certain conditions they may be used to check radar alignment.

permanent tone

An information tone consisting of frequencies 350 Hz and 480 Hz used to indicate to a position that a permanent request for service has been detected by the EVS and for the position to go on-hook.

person

An individual, firm, partnership, corporation, company, association, joint-stock association or governmental entity. It includes a trustee, receiver, assignee or similar representative of any of them.

personal property

Any article with the exception of records and real property, that is tangible, movable and not permanently affixed to other items.

1. in-use personal property -- An item of personal property which is performing or serving its assigned operational function, is permanent in nature and does not lose its individual identity when placed in use.

personnel

The body of individuals employed by or active in an organization, business or service.

1. personnel error -- Any interruption of a facility/service caused by human error. This term is referred to as "skinware" in automation applications.
2. personnel record -- Information maintained in a system of records which is needed at any echelon of management for personnel actions such as staffing, employee development, retirement, grievance and appeals, etc.
3. personnel security -- The procedures established to ensure that all personnel who have access to any sensitive information have the required authorities as well as the appropriate clearances.

#### phantom

An arrangement of repeat coils whereby a third circuit may be connected by the center taps of the coils in a four wire system.

#### phantom replies

Radar returns which occur when any two pulses of two reply trains are one code train apart. Also called 'ghosts', 'pixies' and 'angels'.

#### phase hits

Rapid (4 ms duration) positive or negative phase angle changes which exceed a preset threshold.

#### phase jitter

Unwanted movement of the zero crossing of the voice-band signal. Phase jitter will appear as phase or frequency modulation.

#### photo reconnaissance/PR

Military activity that requires locating individual photo targets and navigating to the targets at a preplanned angle and altitude. The activity normally requires a lateral route width of 16 NM and altitude range of 1,500 feet to 10,000 feet AGL.

#### photoelectric emission

The phenomenon of emission of electrons by certain materials upon exposure to radiation in and near the visible region of the spectrum.

photon

A unit (quantum) of electromagnetic energy.

physical capacity

The capacity of an air traffic facility to accept a traffic density determined only by physical separation requirements, without including equipment or human error or procedural effects.

physical device

Any external I/O hardware which interfaces with a computer via a control unit. See I/O path.

physical inventory

The actual physical count of items of property to ascertain the total quantity on hand, to obtain an accurate description, and to verify location. This information is used to validate official records.

physical security

(1) The use of locks, guards, badges and similar administrative measures to control access to a computer or related equipment. (2) The measures required for the protection of structures and their contents from damage by accident, fire or environmental hazards.

picture signal

In a video display, the signal resulting from the scanning process.

1. polarity of picture signal -- The sense of the potential of a portion of the signal representing a dark area of a scene relative to the potential of the signal representing a light area. Polarity is stated as "black negative" or "black positive."

piggy-back entry

Unauthorized access that is gained to an AIS system via another user's legitimate connection.

pilot balloon

A small free lift balloon used to determine the speed and direction of winds in the upper air.

1. pilot balloon observation/PIBAL -- A method of winds aloft observation by visually tracking a pilot balloon.

pilot briefing

A service provided by the Flight Service Station to assist pilots in flight planning. Briefing items may include weather information, NOTAM's military activities, flow control information, and other items as requested.

pilot channel/pilot frequency

Usually a very narrow band channel over which a single frequency is transmitted to operate trouble alarms or automatic level regulators, or both.

pilot in command

The pilot responsible for the operation and safety of an aircraft during flight time. (Refer to FAR Part 91)

pilotage

Navigation by visual reference to landmarks.

Pilots Automatic Telephone Weather Answering Service/PATWAS

A continuous telephone recording containing current and forecast weather information for pilots. See flight service station. (Refer to AIM)

pilot's discretion

When used in conjunction with altitude assignments, means that ATC has offered the pilot the option of starting climb or descent whenever he wishes and conducting the climb or descent at any rate he wishes. He may temporarily level off at any intermediate altitude. However, once he has vacated an altitude, he may not return to that altitude.

PIREP (pilot weather report)

A report initiated by a pilot concerning meteorological phenomena encountered by the in flight aircraft or other pertinent aeronautical Information.

1. PIREP request --A request made by a pilot, or specialist for PIREP information.
2. PIREPs request/PIREPs transmission -- The transmission of PIREPs/PIREP request over an RF link that uses air (free space) as the communications medium.

### pitch

The angle between an aircraft's longitudinal axis and the horizontal ground plane.

1. pitch setting -- The propeller blade setting as determined by the blade angle measured in a manner, and at a radius specified by the instruction manual for the propeller.

### pitot

A cylindrical tube with an open end pointed up stream; used in measuring impact pressure, particularly in an airspeed indicator.

1. potot static tube -- A parallel or coaxial combination of a pitot and static tube. The difference between the impact pressure and the static pressure is a function of the velocity of flow past the tube and may be used to indicate the airspeed of an aircraft in flight.

### plain text

Intelligible text or signals that have meaning and which can be read or acted upon without the application of any decryption.

### plan position indicator/PPI (scope)

A radar indicator scope displaying range and azimuth of targets in polar coordinates.

### plan view display/PVD

A cathode ray tube display that presents digitized video alphanumerics and special symbols in the computer display channel.

### planned air defense exercise

A properly coordinated air defense exercise conducted by an air division or higher echelon for training, evaluation and/or testing the air defense system.

### platen

The hard rubber roller which supports the paper during printing and advances it during line feed.



### plow wind

The spreading downdraft of a thunderstorm; a strong, straight line wind in advance of the storm. See first gust.

### pogo

The term describing short distance IFR flights from one airport to another of which control is exercised by the departure TRACON or tower and the destination TRACON or tower within low altitude airspace delegated to the two facilities for that purpose by the en route traffic control center having jurisdiction. See tower en route flight.

### polar air

An air mass with characteristics over high latitudes, especially within the subpolar highs. Continental polar air/cP has cold surface temperatures, low moisture content, and especially in its source regions, has great stability in the lower layers. It is shallow in comparison with Arctic air. Maritime polar/mP initially possesses similar properties to those of continental polar air, but in passing over warmer water, it becomes unstable with a higher moisture content. Compare tropical air.

### polar circuit

A teletypewriter circuit on which the polarity of applied voltage and resulting direction of current is reversed between marking and spacing impulses. Current flows in one direction on a marking impulse and in the opposite direction during a spacing impulse.

### polar differential relay

A relay having two separate windings and an associated permanent magnet. Either the direction or magnitude of current may be used to cause its operation.

### polar distance

Angular distance from a celestial pole to the arc of an hour circle between the celestial pole and a point on the celestial sphere. It is measured along an hour circle and may vary from  $0^{\circ}$  to  $180^{\circ}$ , since either pole may be used as the origin of measurement. It is usually considered the complement of declination, though it may be either  $90^{\circ} - \text{declination}$  or  $90^{\circ} + \text{declination}$ , depending upon the pole used.

polar front

The semipermanent, semicontinuous front separating air masses of tropical and polar origins.

polar relay

A teletypewriter line relay capable of high speed operation and used on both polar and neutral circuits.

polarential circuit

A teletypewriter circuit on which a reversal of current is obtained by differences in opposing voltages applied.

polarity

A reproduction term used to indicate the change or retention of a light (positive) or dark (negative) background image.

policy making

All first time public announcements of anticipated programs, policies and expenditures by a government agency; subjective evaluations of existing or future aviation policies and systems; and proposed rule making.

poll

The interrogation of a station on a multi-point teletype circuit. In Area B circuits, polling is accomplished by an APULS.

polling

A centrally controlled method of calling a number of points (on a multi-point network) to send information to the central point or to other stations on the network.

poly-chlorinated biphenyl/PCB

Any chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees or any combination of chemicals which contain such substances.

1. PCB article/equipment -- Any manufactured item which contains PCBs and whose surface has been in direct contact with PCBs. PCB article(s)/equipment include capacitors, transformers, electric motors, pumps, pipes and other manufactured items.

2. PCB container -- Any package, can, bottle, bag, barrel, drum, tank or other device which contains PCBs or PCB articles and whose surface(s) has been in direct contact with PCBs.
3. PCB item -- Any item which deliberately or unintentionally contains or has as a part of it any PCB or PCBs at a concentration of 50 parts per million (ppm) or greater.
4. PCB transformer -- Any transformer that contains PCBs at a concentration of 500 parts per million (ppm) or greater.

popeye

A term which indicates that an aircraft is in clouds or an area of reduced visibility.

port

The connector and associated circuitry through which information is transferred into and out of a computer.

position

A specific input/output source within a facility (e.g., the arrival position at an approach control facility, the radar position at a sector).

position data

Data provided by the ACCC concerning the position, speed and heading of aircraft within the ACCC's area of responsibility. This data is used to estimate current and future utilization of airspace.

1. position reports -- A report over a known location as transmitted by an aircraft to ATC (e.g., over a compulsory or on-request reporting point), or periodic messages derived from LORAN or other navigation systems on-board aircraft and forwarded automatically and/or semi-automatically to ATC for use in dependent surveillance or oceanic flight following.

position determination system

A system which determines an aircraft position in three dimensions.

position marker

A dot or square on the Plan View Display, moved in association with the track ball. See slew dot.

position symbol

A computer-generated indication shown on a radar display to indicate the mode of tracking.

positional entry device

A trackball unit.

positioning

Operations in a printer which cause movement of the typebox under the hammer so that the proper pallet is struck.

positive advisory

One of the following TCAS resolution advisories: CLIMB, DESCEND. A positive advisory can be either preventive or corrective.

positive control

The separation of all air traffic within designated airspace, by air traffic control, it is a concept which allows mixed VFR and IFR operations in a stated area but requires all aircraft to be in contact with and under control of, the ATC controllers.

Positive Controlled Airspace/PCA

Exists above 18,000 feet in the northeastern portion of the United States and above 24,000 feet in the remainder of the country. In PCA all aircraft are under IFR control and the ATC system provides separation service between all aircraft. Only IFR operations, with the required increased level of avionics and pilot proficiency (IFR rating), are allowed at these altitudes. See positive control and airport control zone.

Positive Control Area/PCA

See controlled airspace.

positive target control/PTC

The operation of faker aircraft transponders on discrete Mode A/3 codes to satisfy Air Defense faker monitor and ATC requirements.

positive vorticity

See vorticity.

postable fix

A fix for which a flight progress strip is to be outputted.

posted fix

A predetermined fix for which flight progress strips will be printed on the basis of altitude and proximity of the route of flight to that fix.

1. posted fix time -- The time printed on a flight progress strip for this fix.

power density

(1) The intensity of microwave/radio-frequency radiation at a given point. Power density is the average power per unit area expressed as milliwatts per square centimeter ( $\text{mW}/\text{cm}^2$ ). (2) In radar meteorology, the amount of radiated energy per unit cross sectional area in the radar beam.

practice instrument approach

An instrument approach procedure conducted by a VFR or an IFR aircraft for the purpose of pilot training or proficiency demonstrations.

precautionary approach

A procedure designed to afford a pilot experiencing flight difficulties a means of landing safely and expeditiously while providing a safe ejection altitude if he elects to discontinue the approach.

precession

A complex motion executed by a rotating body when subjected to the effects of torque, which has the tendency to change the axis of rotation.

1. apparent precession -- The apparent deflection of the gyro axis, relative to the earth, due to the rotating effects of the earth and not due to any applied forces.
2. induced (real) precession -- The movement of the axis of a spinning gyro when a force is applied. The gyro precesses 90° from the point of applied pressure in the direction of rotation.
3. precession of the equinox -- The average yearly apparent movement of the first point of Aries to the west.

### precipitation

Any or all forms of water particles, whether liquid or solid, that fall from the atmosphere and reach the surface. It is a major class or hydrometer, distinguished from cloud and virga in that it must reach the surface. This would include rain, snow, freezing rain, sleet, ice pellets, etc.

### precipitation attenuation

See attenuation.

### precipitous terrain

Terrain characterized by steep or abrupt slopes.

### precision approach procedure(s)

(1) A standard instrument approach in which an electronic glide slope is provided, such as ILS, MLS or PAR. (2) A navigational facility which provides combined azimuth and glide slope guidance to a runway. (3) An instrument approach conducted in accordance with directions issued by a controller referring to the surveillance radar display until the aircraft is turned onto final approach and, thereafter, to a precision approach radar display. See non-precision approach.

### Precision Approach Radar/PAR

Radar equipment in some ATC facilities operated by the FAA and/or the military services at joint-use civil/military locations and separate military installations to detect and display azimuth, elevation and range of aircraft on the final approach course to a runway. This equipment may be used to monitor certain non-radar approaches, but is primarily used to conduct a precision instrument approach (PAR) wherein the controller issues guidance instructions to the pilot based on the aircraft's position in relation to

the final approach course (azimuth), the glidepath (elevation), and the distance (range) from the touchdown point on the runway as displayed on the radar scope. See glidepath, PAR. (Refer to AIM) The abbreviation "PAR" is also used to denote preferential arrival routes in ARTCC computers. See preferential routes.

#### pre-commissioning certification

The technical verification by a qualified F&E (establishment) engineer or technician that a system/subsystem/equipment is capable of providing the required service. This is done following final alignment, tune-up and flight inspection and prior to the Joint Acceptance Inspection/JAI and commissioning. It affirms that the key performance parameters are operating within the standards and tolerances prescribed in the specifications and design criteria and includes official documentation of all necessary parameters affecting system operation and establishes system baseline data.

#### predicted

That which is expected at some future time, postulated on analysis of past experience and tests.

1. predicted track position -- A track position derived by extrapolating along the track velocity for a specified interval.
2. prediction techniques -- Methods for estimating future behavior of a system based on a knowledge of its parts, functions, operating environment and their interrelationship.

#### preferential routes

Preferential routes (IPDRs, PARs, and PDARs) are adapted in ARTCC computers to accomplish inter/intra facility controller coordination and to assure that flight data is posted at the proper control positions.

1. preferential arrival route/PAR -- (1) An adapted arrival route, program-induced to override, with a route amendment, a filed route from an adapted transition fix or arrival line to one or more adapted airports. (2) A specific arrival route from an appropriate en route point to an airport or terminal area. It may be included in a standard terminal arrival/STAR or preferred IFR route. The abbreviation PAR is used primarily within the ARTCC and should not

be confused with the abbreviation for Precision Approach Radar.

2. preferential departure-arrival route/PDAR -- (1) An adapted departure route and arrival route for airport to airport processing. In effect, the combination of a PDR and a PAR. (2) A route between two terminals which are within or immediately adjacent to one ARTCC's area. PDARs are not synonymous with preferred IFR routes but may be listed as such as they do accomplish essentially the same purpose. See preferred IFR routes, NAS Stage A.
3. preferential departure route/PDR -- (1) An adapted departure route, program-induced to override with a route amendment, a filed route from one or more adapted airports to an adapted transition fix or departure line. (2) A specific departure route from an airport or terminal area to an en route point where there is no further need for flow control. It may be in a standard instrument departure or a preferred IFR route.

#### preferred coverage

The radar designated preferential coverage over a particular geographical area where coverage from two or more radars is available.

#### preferred routes

Routes established between busier airports to increase system efficiency and capacity.

1. preferred IFR routes -- Routes established between busier airports to increase system efficiency and capacity. They normally extend through one or more ARTCC areas and are designed to achieve balanced traffic flows among high density terminals.
2. preferred route message/data -- Information concerning the adding, deleting, modifying, activation or deactivation of a preferred route.

#### preferred site

A radar site whose primary/beacon radar data is processed in preference to data from the supplementary site for returns from a specified geographic region.



### pre-filed flight plan

A flight plan on file in an FAA facility to provide for point-to-point operations of a recurring nature or quick reaction deployment missions. This type flight plan will normally include permanent type data, such as route, with a special mission designation when required.

### pre-flight briefing

Voice/data information provided to the pilot including various weather, NOTAM, traffic flow, and flight plan information.

### preliminary acceptance testing

A series of tests conducted to insure before FAA acceptance that the subject element (hardware/software) is completely free from significant errors and in conformance with the FAA designated design criteria.

### premise

The property on which a service is furnished. An entire airport property is considered as one "premise," e.g., La Guardia Airport.

### pressure

See atmospheric pressure.

### pressure altimeter

An aneroid barometer with a scale graduated in altitude instead of pressure using standard atmospheric pressure height relationships. It shows indicated altitude (not necessarily true altitude), and may be set to measure altitude (indicated) from any arbitrarily chosen level. See altimeter setting, altitude.

### pressure altitude

The atmospheric pressure at the level of the pressure sensing device expressed in feet and reference to the standard pressure datum of 29.9 inches of mercury. See altitude.

1. pressure altitude variation/PAV -- The pressure difference, in feet between mean sea level and the standard datum plane.

pressure correction

Validated Mode C radar data require corrections based on the barometric pressure in the vicinity of the transponding aircraft for those aircraft below the minimum assignable flight level for that sector.

pressure gradient

The rate of decrease of pressure per unit distance at a fixed time.

pressure jump

A sudden, significant increase in station pressure.

pressure line of position/PLOP

A line of position computed by the application of pressure pattern principles. Specifically, a line parallel to the effective air path and pressure pattern displacement/ZN distance from the air position for a given time.

pressure pattern displacement/ZN

With respect to pressure pattern flying, the displacement in nautical miles, at right angles to the effective airpath, due to the crosswind component of the geostrophic wind.

pressure tendency

See barometric tendency.

prevailing easterlies

The broad current or pattern of persistent easterly winds in the Tropics and in polar regions.

prevailing visibility

The greatest horizontal visibility which is equalled or exceeded throughout half of the horizon circle. It need not be a continuous half. In the case of rapidly varying conditions, it is the average of the prevailing visibility while the observation is being taken.

prevailing westerlies

The dominant west to east motion of the atmosphere, centered over middle latitudes of both hemispheres.

### prevailing wind

The (local) direction from which the wind blows most frequently.

### preventive advisory

A TCAS resolution advisory that instructs the pilot to avoid certain deviations from current vertical rate, as for example a DON'T CLIMB when the aircraft is level.

### preventive maintenance

(1) A procedure in which a system is periodically checked and/or reconditioned in order to prevent or reduce the probability of failure or deterioration in subsequent service. Preventative maintenance may be used as a generic term in text discussing all kinds of tasks, including even non-scheduled tasks, the performance of which meets the general definition. (2) With respect to aircraft, it means the simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

### preview

A display on a CRT which shows a message which will be entered into the CCC. A proof-reading capability of operator-inserted input messages.

1. preview area -- A defined area on the controllers computer readout device/CRD used to preview messages he has composed prior to entering the message to the Central Computer Complex.

### previous posted fix

The posted fix along the route of flight preceding the fix referenced by a particular en route flight progress strip (Posted fix).

### previously selected aircraft

The last designated aircraft identification that was included in a previous message to the computer.

### primary aircraft

A proposed category of aircraft limited to a single engine of not more than 200 Hp and seating capacity of not more than four occupants.

primary area

The area within a segment in which full obstruction clearance is applied.

primary entry track

A flight track along which en route descent is made to the entry point of a MTR.

primary FPA

The FPA to which another FPA is assigned.

primary penetration fix

The fix from which the primary entry track of a MTR begins. This fix is described by reference to a ground based navigation aid.

primary radar

That form of radar that depends upon reception of reflected electromagnetic energy for the detection of objects in the area under surveillance. See radar.

1. primary radar report video -- Analog output of a search radar receiver containing pulses (which indicate radar targets) and noise.
2. primary radar return -- See radar, search and beacon.

primary search area/PSA

A circular area centered at the track position which circumscribes the large search area and is used as a processing filter.

prime function

The first function within a category. The prime function is selected automatically, by the computer, if no function button is depressed on the category/function panel.

principle of least privilege

The granting of the minimum access authorization for the performance of required tasks.

### print

To transfer computer information to an output device; to copy from internal storage to external storage.

### print positions

The horizontal positions across a flight progress strip that define where characters may be printed.

### print suppress

To eliminate the printing of characters in order to preserve their secrecy; for example, the characters of a password as it is keyed by a user at an input terminal.

### printer, high speed

A CCC peripheral device which operates at a speed of 1000 lines per minute, 132 characters per line (capacity).

### printer keyboard/keypack

A CCC peripheral device which provides a two-way communication between an operator and the computer.

### printer, line

A device capable of printing one line of characters across a page; i.e., 100 or more characters simultaneously as continuous paper advances line by line in one direction past type bars or a type cylinder that contains all characters in all positions.

### priority

A scale of preference for correlation analysis assigned to all primary/beacon radar data. The highest priority data are stored for tracking. See correlation.

### privacy

(1) The right of an individual to self-determination as to the degree to which the individual is willing to share with others information about himself/herself that may be compromised by unauthorized exchange of such information among other individuals or organizations. This concept embodies the desire by an individual to determine for himself/herself when, how and to what extent information of a personal nature shall be obtained or communicated to others. (2) The right of individuals and organizations to control the collection, storage and dissemination of their

information or information about themselves. (3) The right of individuals to know that recorded information is accurate, pertinent, complete, up-to-date and reasonably secure from unauthorized access, either accidentally or intentionally.

1. privacy protection -- The establishment of appropriate administrative, technical and physical safeguards to ensure the security and confidentiality of data records and to protect both security and confidentiality against any anticipated threats for hazards that could result in substantial harm, embarrassment, inconvenience or unfairness to any individual about whom such information is maintained.
2. privacy transformation -- Synonym for encryption algorithm.

#### private line circuit

A connection between two or more stations for the exclusive use of a telephone customer. The circuit may or may not have access to the nationwide telephone network.

#### privileged instructions

(1) A set of instructions generally executable only when an AIS is operating in an executive state; for example, the handling of interrupts. (2) Special computer instructions designed to control the protection features of an AIS system; for example the storage protection features.

#### probability

The likelihood of occurrence of a particular event, measured by the ratio of the number of ways an event actually occurs to the total number of possibilities.

#### probe data

Information generated for use by the controller that is the result of various probes performed by the common processor. These would include sector workload probe, severe weather probe, restricted airspace probe, etc.

1. probe request -- An input from the controller requesting a specific probe to be performed by the common processor.

#### procedural security

Synonym for administrative security.

### procedure(s)

See backup procedures, handshaking procedures, recovery procedures, system integrity procedures.

### Procedure Turn/PT

(1) The maneuver prescribed when it is necessary to reverse direction to establish an aircraft on the intermediate approach segment or final approach course. The outbound course, direction of turn, distance within which the turn must be completed, and minimum altitude are specified in the procedure. However, unless otherwise restricted, the point at which the turn may be commenced and the type and rate of turn are left to the discretion of the pilot. (2) A constant rate turn of an aircraft in flight; used for computing the radius of turn and time required for its execution when very accurate navigation is required in controlling time or maintaining accurate, briefed tracks; usually associated with the turn made at the initial point of a bomb run to insure that the bombing run is made on the briefed axis of attack..

1. procedure turn inbound -- That point of a procedure turn maneuver where course reversal has been completed and an aircraft is established inbound on the immediate approach segment or final approach course. A report of "procedure turn inbound" is normally used by ATC as a position report for separation purposes. See final approach course, procedure turn, segments of an instrument approach procedure.

### processed NOTAM

NOTAM that has been processed by the consolidated NOTAM system: i.e., edited, annotated, et al.

### processed radar

Mosaicked search and beacon radar, tracked target, alphanumeric tags, maps, alerts and lists.

### processed weather data

Weather data that has been combined, mosaicked, annotated, overlaid, zoomed, etc., in the CWP.

### producer's decision risk

The risk that a batch of an item with an acceptable reliability will be rejected by a reliability test.

### proficiency

The level of technical competency necessary to control and operate an ATC position under moderate or greater workload.

### profile descent

An uninterrupted descent (except where level flight is required for speed adjustment; e.g., 250 knots at 10,000 MSL) from cruising altitude/level to interception of a glide slope or to a minimum altitude specified for the initial or intermediate approach segment of a non-precision instrument approach. The profile descent normally terminates at the approach gate or where the glide slope or other appropriate minimum altitude is intercepted.

### prognostic chart/PROG

A chart of expected or forecast weather conditions.

### program

A set of computer instructions which, when executed, causes the computer to perform an operation. See firmware, software.

1. program component -- A program component is a major division of the computer program sub-system which alone is capable of performing one of the major functions of the sub-system. The operational portion of the Computer Program Element, for example, is a "Program Component".
2. program control -- The regulation of some aspect of computer operation (e.g., the setting of configuration registers) by executing computer instructions rather than by manual means (such as switches or push buttons).
3. program interrupt -- A temporary break in the continuity of normal program operation; five classes of interruption conditions are processed by the CCC: I/O, program error, supervisor call, external, and machine check.
4. program module -- A program module is a portion of the operational computer program component that implements a broadly defined functional area. The surveillance portion of the operational program component would be a program module.



5. program segment -- A set of computer instructions which represent a portion of a computer program.
6. program task -- The results of the translation of a functional requirement to be performed by a sub-program or part thereof; e.g., generating flight displays.

#### program control

Descriptive of a system in which a computer is used to direct an operation or process and to hold automatically or to make changes in the operation or process on the basis of a prescribed sequence of events.

1. control coordination -- Control handoffs/acceptances, control metering/sequencing information and intersection clearance coordination.
2. control coordination data -- Data transferred between processors in order to accomplish control coordination.
3. control handoff/acceptance -- An action taken to transfer the radar identification of an aircraft from one controller to another if the aircraft will enter the receiving controller's airspace. Radio communication with the aircraft will also be transferred at this point.
4. control metering/sequencing information -- Information transferred between approach and tower control personnel discussing metering and sequencing plans. This would include the order and separation of incoming aircraft.

#### Programmable Indicator Data Processor/PIDP

The PIDP is a modification to an AN/TPX-42 interrogator system currently installed in fixed RAPCON's. The PIDP detects, tracks, and predicts secondary radar aircraft targets. These are displayed by means of computer-generated symbols and alphanumeric characters depicting flight identification, aircraft altitude, ground speed, and flight plan data. Although primary radar targets are not tracked, they are displayed coincident with the secondary radar targets as well as with the other symbols and alphanumerics. The system has the capability of interfacing with ARTCC's.

#### programmatic

An ASR teletypewriter modified for preparation of flight plan messages for Air Traffic Control. Permits message organization into concise format required for automatic

distribution over a circuit and/or subsequent processing computer. An additional feature is generation and transmission of parity check character whenever desired, usually after each message line.

### programming

The act of planning, coding and debugging a computer program.

1. multi role programming -- The programming of a computer by allowing two or more arithmetical or logical operations to be executed simultaneously. Contrasted with programming, serial. See parallel processing.

### progress report

A report made by a pilot when he/she reaches certain mandatory (or optional) reporting points along his/her route of flight. These reporting points are usually route or approach fixes, such as VORs and NDBs.

### prohibited area

Airspace of defined dimensions identified by an area on the surface of the earth within which flight is prohibited.

### project

Mentally extend the position and/or path of one or more aircraft in time and space.

### Project Beacon

A scientific, engineering review of ATC conducted by the FAA at the request of President Kennedy in 1961. The review was also to prepare a practicable long-range plan to ensure efficient and safe ATC.

### projection, chart/map

A process of mathematically constructing a representation of the surface of the earth on a flat plane.

### prompt

A symbol or message indicating that a computer is ready for input.

## propeller

A device for propelling an aircraft which has blades on an engine driven shaft and that, when rotated, produces by its action on the air, a thrust approximately perpendicular to its plane of rotation. IT includes control components normally supplied by its manufacturer, but does not include main and auxiliary rotors or rotating airfoils of engines.

## property

Indicating legal right of ownership to both tangible and intangible articles.

1. property accountability -- The obligation imposed by law or regulation for keeping an accurate record of property assets. This includes establishing and maintaining capitalization and other financial data, performing record adjustments/reconciliations and maintaining an audit trail for applicable property/financial transactions.
2. property control -- The physical and administrative protection of property assets to include their security, location identity and recordation of property transactions. It also includes the care and protection of property, physical inventory, facility data maintenance and processing of property transactions.
3. property custodian -- The person formally designated by organizational position as being responsible for the management and control of property within a specified custodial area.
4. property identification number -- A unique number assigned to an itemized piece of in-use personal property.
5. property management -- The overall administration of property assets, data, systems and procedures needed to meet established management requirements and objectives. It includes the establishment and implementation of policy, systems and procedures for decision making and the accomplishment of property acquisition, use, transfer and disposal.
6. property manager -- The head of an organizational element which has as a primary function the management and control of property within a region/center.

property (adequate) interest in runway clear zone

As a minimum, an easement (or covenant running with the land) which conveys a right of flight above the approach surface and provides enough control to rid the clear zone of all obstructions (objects which project above the approach surfaces) and to prevent the creation of future obstructions, together with the right of entrance and exit for those purposes.

proposed boundary crossing time/PBCT

Each center has a PBCT parameter for each internal airport. Proposed internal flight plans are transmitted to the adjacent center if the flight time along the proposed route from the departure airport to the center boundary is less than or equal to the value of PCBT or if the airport adaptation specifies transmission regardless of PBCT.

proprietary software

Any computer software that would make an application vendor and/or machine dependent, or any software which has a surcharge.

protected wireline distribution system

A telecommunications system which has been approved by a legally designated authority and to which electromagnetic physical safeguards have been applied to permit safe electrical transmission of un-encrypted sensitive information. Synonymous with approved circuit.

protection

See data-dependent protection, fetch protection, file protection, lock and key protection system, privacy protection.

protection ring

One of a hierarchy of privileged modes of an AIS that gives a certain access right to the users, programs and processes authorized to operate in a given mode.

protector

A device used to prevent damage to lines or equipment by high voltage or currents, such as those induced by lightning discharge. The device may be a spark gap, varistor, thermistor, carbon block, gas tube, etc. It presents a very

high resistance to ground but usually conducts upon application of high voltage or current impulse.

protocol

A set of conventions between communicating processes on the formats and contents of messages to be exchanges.

proximity warning

A computer logical process which cyclically checks if violation of radar separation standards is imminent. The process uses the track position and track velocity of track pairs that are checked.

1. Proximity (Pilot) Warning Indicator/PWI -- A pilot warning instrument which, in its most simple form, is an airborne device whose function is to warn a pilot of the proximity of other aircraft. It may also provide other information to assist the pilot in evaluating the situation, such as relative bearing and bearing rate of other aircraft, relative altitude, range, or combinations of these parameters. After visually locating the intruding aircraft, the pilot must evaluate the threat and select and execute an appropriate evasive action. A proximity warning system utilizing existing transponders has been suggested.

pseudo adiabatic lapse rate

See saturated adiabatic lapse rate.

pseudo-flaw

An apparent loophole deliberately implanted in an operating systems program as a trap for intruders.

psychrometer

An instrument consisting of a wet bulb and a dry bulb thermometer for measuring wet bulb and dry bulb temperature. It is used to determine the water vapor content of the air.

public agency

A State, territory or any agency of them; a municipality or other political subdivision; a tax supported organization; or an Indian tribe or pueblo.

### public aircraft

An aircraft used only in the service of a government, or apolitical subdivision. It does not include any government-owned aircraft engaged in carrying persons or property for commercial purposes.

### public airport

Any airport which is used or to be used for public purposes, under the control of a public agency, the landing area of which is publicly owned.

### public, general

All persons who are neither direct users nor consumers of NAS services, or considered members of a special public.

1. special public -- Elected officials, political appointees, and other employees of Federal, state and local governments; aviation constituents; trade and professional organizations; organizations and other influential groups with special interest in the NAS.

### public information material

New releases, magazine articles, public use publications (brochures, pamphlets, journals, etc.) motion pictures, video and audio tapes, slide presentations, radio/television news features or public service copy and productions, speeches for public release, exhibits, posters, external recognition and awards, historical materials for public archives, advertising and all other material designed to inform the public.

### publication

Printed material used to convey information.

### published route

A route for which an IFR altitude has been established and published; e.g., Federal Airways, Jet Routes, Area Navigation Routes, Specified Direct Routes.

### pulse

(1) Pertaining to radar, a brief burst (of very short time duration) of electromagnetic radiation emitted by the radar. See pulse length. (2) A signal having a rise and fall in voltage or current in time, representing one information element.

1. pulse, azimuth reference -- A pulse indicating Antenna North Position.
2. pulse duration/pulse width -- The duration, in microseconds, of each pulse in a radar transmission.
3. pulse length error -- A range distortion of a radar return caused by the duration of the pulse.
4. pulse recurrence time/PRT -- The interval of time, in microseconds, between the transmission of two successive radar or radio pulses.
6. pulse repetition frequency/PRF, pulse recurrence rate/PRR -- The frequency, or number of pulses, that a radar transmits per second of electrical energy of a predetermined width, e.g., 300 PRF means there are 300 pulses of energy transmitted in one second (sometimes referred to as pulses per second). The PRF is inversely proportion to the range of the radar.

#### pulse length

Pertaining to radar, the dimension of a radar pulse. It may be expressed as the time duration or the length in linear units. Linear dimension is equal to time duration multiplied by the speed of propagation (approximately the speed of light).

#### pulse, X

See X pulse.

#### punch card

A card of standard size and shape upon which data is stored in the form of holes and no holes. The hole positions are arranged in columns; a given pattern of holes in a column represents one character.

#### purging

(1) The orderly review of storage and removal of inactive or obsolete files. (2) The removal of obsolete data by erasure, by overwriting of storage or by resetting registers.

### Q-symbol

A location identifier assigned by the region when a location does not have an identifier in FAA Order 7350.5, Location Identifiers. These identifiers will always contain Q as the first letter.

### quadrant

A quarter part of a circle, centered on a NAVAID, oriented clockwise from magnetic north as follows: NE quadrant 000-089, SE quadrant 090-179, SW quadrant 180-269, NW quadrant 270-359.

### quadrantal error

The error in a radio direction indication introduced by the bending of radio waves by electrical currents and structural metal in the aircraft. It may also refer to magnetic compass error resulting from the same causes.

### quadri-cycle

Four processing cycles (normally ten seconds).

### quantize

To restrict the possible values of a variable to a discrete number of values. See digitize.

### quantizer

A device that describes in what particular digital subdivision a given analog should be placed.

### quarterly

A scheduling term, meaning four times each calendar year, and at approximately three-month intervals (30-100 days).

### quasi stationary front/stationary front

A weather front which is stationary or nearly so. Conventionally, a front which is moving at a speed of less than five knots is generally considered to be quasi stationary.

### query

To inquire of another person or machine to remove doubt, as in querying about some element of a flight plan.



### quick access

The capability of reaching preselected locations in an ARTCC without dialing on a Dial Pad. This is to be distinguished from Direct Access because Direct Access has been defined to include the capability of reaching preselected locations with reduced dialing, as well as no dialing. The Quick Access Capability may utilize Direct Access keys.

### quick look

A feature of NAS Stage A and ARTS which provides the controller the capability to display full data blocks of tracked aircraft from other control positions.

### quota flow control/QFLOW

A flow control procedure by which the Central Flow Control Function (CFCF) restricts traffic to the ARTC Center area having an impacted airport, thereby avoiding sector/area saturation. See air traffic control systems command center. (Refer to Airport/Facility Directory)

### R-data

The portion of the flight plan which designates the route of the flight. It consists of: fixes, airways, prefiled routes, and time.

### R.O.

Abbreviation for "receive only," as applied to a teletypewriter. It consists of only a hard copy printer, with no keyboard or paper tape capability.

### R.T.

Abbreviation for "reperforator-transmitter," as applied to a data handling set used for receive, storage and send in a message switching center. It consists of a reperforator, large tape reels for storage, and a transmitter distributor. Characters punched into the tape by the reperforator include address information that is read in parallel by the tape reader. The message is punched and stored on reels until the switching processor finds the circuit to the address, connects to it, and signals the transmitter-distributor to start of message.

### rack

A framework or stand used to hold or mount a piece of equipment or machine parts.

### rad

The unit of absorbed dose of ionizing radiation which is 0.01 Joules/kilogram or 100 ergs/gram in any medium.

### RADAR (Radio Detection and Ranging)

A device which, by measuring the time interval between transmission and reception of radio pulses and correlating the angular orientation of the radiated antenna beam or beams in azimuth and/or elevation, provides information on range, azimuth and/or elevation of objects in the path of the transmitted plans.

1. Airport Surface Detection Equipment/ASDE -- Radar equipment specifically designed to detect all principal features on the surface of an airport, including vehicular traffic, and to present the entire picture on a radar indicator console in the control tower.

2. Airport Surveillance Radar/ASR -- FAA short-range radar for terminal air traffic control. See short range radar.
3. beacon radar -- See secondary radar.
4. gapfiller radar -- In the NAS it is normally a short range radar used to cover "gaps" in the en route surveillance coverage area.
5. long range radar -- In the NAS it is a surveillance radar capable of detecting targets at a range of 250 NM and normally utilized in the en route environment.
6. primary radar -- A radar that detects a target by transmitting an RF signal and detecting the reflected RF signal (non-cooperative system).
7. secondary radar (beacon radar) -- A radar system in which the object to be detected is fitted with cooperative equipment in the form of a radio receiver/transmitter (transponder). Radio pulses transmitted from the searching transmitter/receiver (interrogator) site are received in the cooperative equipment and used to trigger a distinctive transmission from the transponder. This latter transmission rather than a reflected signal, is then received back at the transmitter/receiver site. (cooperative system).
8. short range radar -- In the NAS, a surveillance radar capable of detecting targets at ranges out to 60 NM, and normally utilized for terminal surveillance, but may be used as an en route gap-filler radar.

#### RADAR (ICAO)

A radio detection device which provides information on range, azimuth and/or elevation of objects.

1. primary radar (ICAO) -- A radar system which uses reflected radio signals.
2. secondary radar (ICAO) -- A radar system wherein a radio signal transmitted from a radar station initiates the transmission of a radio signal from another station.

### radar advisory

The term used to indicate that the provision of advise and information is based on radar observation. See advisory service.

### Radar Air Traffic Control Facility/RATCF

An air traffic control facility, located at U.S. Navy or Marine Corps Air Stations, utilizing surveillance and, normally, precision approach radar and air/ground communications equipment to provide approach control services to aircraft arriving, departing or transiting the airspace controlled by the facility. The facility may be operated by FAA, the USN, or USMC and service may be provided to both civil and military airports.

### radar approach

An instrument approach procedure which utilizes Precision Approach Radar/PAR or Airport Surveillance Radar/ASR.

### radar approach (ICAO)

An approach, executed by an aircraft, under the direction of a radar controller.

### Radar Approach Control Facility/RAPCON

An air traffic facility, located at a U.S. Air Force base, utilizing surveillance and, normally, precision approach radar and air/ground communications equipment to provide approach control services to aircraft arriving, departing or transiting the airspace controlled by the facility. The facility may be operated by the FAA or USAF and services may be provided to both civil and military airports.

### radar approach control facility

A terminal ATC facility that uses radar and non-radar capabilities to provide approach control service to aircraft arriving, departing or transiting airspace controlled by the facility. See approach control service. Provides radar ATC services to aircraft operating in the vicinity of one or more civil and/or military airports in a terminal area. The facility may provide services of a ground control approach (GCA); i.e., ASR and PAR approaches. A radar approach control facility may be operated by FAA, USAF, US Army, USN, USMC, or jointly by the FAA and a military service. Specific facility nomenclatures are used for administrative purposes only and are related to the physical location of the facility and the operating service.

### radar arrival

An aircraft arriving at an airport served by a radar facility and in radar contact with the facility. See non-radar arrival.

### radar, artificial

Provides additional filtering of Natural Radar Site data on a PVD basis. Each PVD display area is defined as a certain array of Radar Sort Boxes. In the CCC, natural radar data is selectively rejected for display at a PVD based on PVD/Artificial Radar pairing. This decreases the number of radar messages sent to the CDC's High Speed Filter, thus improving throughput. See compartmentalized radars.

### radar beacon/RACON

A radar receiver-transmitter that transmits a strong coded signal whenever its receiver is triggered by an airborne interrogating radar. The coded reply can be used to determine position in terms of range and bearing from the beacon. Also called beacon, radar, and radar transponder. See beacon antenna.

### radar beam

A directional concentration of radio energy.

### radar contact

(1) Used by ATC to inform an aircraft that it is identified on the radar display and radar flight following will be provided until radar identification is terminated. Radar services may also be provided within the limits of necessity and capability. When a pilot is informed of "radar contact" he/she automatically discontinues reporting over compulsory reporting points. See radar flight following, radar contact lost, radar service terminated. (Refer to AIM) (2) The term used to inform the controller that the aircraft is identified and approval is granted for the aircraft to enter the receiving airspace.

### radar contact (ICAO)

The situation which exists when the radar blip or radar position symbol of a particular aircraft is seen and identified on a radar display.

### radar contact lost

Used by ATC to inform a pilot that radar identification of his/her aircraft has been lost. The loss may be attributed to several things including the aircraft's merging with weather or ground clutter, the aircraft's flying below radar line of sight, the aircraft's entering an area of poor radar return, or a failure of the aircraft transponder or the ground radar equipment. See clutter, radar contact.

### radar data

When used without qualification, "radar" or "radar data" generally include both primary radar and beacon radar information received by an interrogator site. See radar messages.

### radar echo

See echo.

### radar environment

An area in which radar service may be provided. See radar contact, radar service, additional services, traffic advisories.

### radar flight following

The observation of the progress of radar identified aircraft, whose primary navigation is being provided by the pilot, wherein the controller retains and correlates the aircraft identity with the appropriate target or target symbol displayed on the radar scope. See radar contact, radar service.

### radar handoff

That action whereby radar identification of, radio communications with and, unless otherwise specified, control responsibility for an aircraft is transferred from one controller to another without interruption of radar flight following.

### radar identification

In ATC, radar identification is the process of ascertaining that a radar target is the radar return from a particular aircraft already in the ATC system or about to enter it. See radar contact.

1. radar identified aircraft -- An aircraft, the position of which has been correlated with an observed target or symbol on the radar display. See radar contact, radar contact lost.

#### radar identification (ICAO)

The process of correlating a particular radar blip or radar position symbol with a specific aircraft.

#### radar input B/S

The ratio of the number of radar scans in which a beacon or search message is reported for an aircraft to the total number of radar scans during the period in which the aircraft is in the range of coverage of the radar. See blip/scan ratio.

#### radar messages

Radar data from the DRG's are accepted into the Computer storage for multiple radar data processing. The following message types are included among those processed by the computer program: (a) Beacon radar data, (b) Search radar data, (c) System status, (d) Test, (e) Map, (g) Strobe and (h) Weather.

#### radar monitoring

See radar service.

#### radar nautical mile

The time required for a radar pulse to travel out one nautical mile and the echo pulse return (12.4 ms)

#### radar navigational guidance

See radar service.

#### radar point out/point out

Used between controllers to indicate radar handoff action where the initiating controller plans to retain communications with an aircraft penetrating the other controller's airspace and where additional coordination is required.

#### radar precipitation returns

Radar energy acquired by a radar receiver which has been reflected off of airborne precipitation.

### radar pulse

Pulses of RF (microwave) energy transmitted in a narrow beam into the air (free space) from a radar transmitter.

### radar required

A term displayed on charts and approach plates and included in FDC NOTAMS to alert pilots that segments of either an instrument approach or a route are not navigable because of either the absence or usability of a NAVAID. The pilot can expect to be provided radar navigational guidance while transiting segments labeled with this term. See radar service.

### radar route

A flight or route over which an aircraft is vectored. Navigational guidance and altitude assignments are provided by ATC. See flight path, route.

### radar scan

See scan, radar.

### radar service

A term which encompasses one or more of the following services based on the use of radar which can be provided by a controller to a radar-identified aircraft.

1. radar separation -- Radar spacing of aircraft in accordance with established minima.
2. radar navigational guidance -- Vectoring aircraft to provide course guidance.
3. radar monitoring -- The radar flight-following of an aircraft whose primary navigation is being performed by its pilot, to observe and note deviations from its authorized flight path, airway, or route. This includes noting the aircraft's position relative to approach fixes.

### radar service (ICAO)

A term used to indicate a service provided directly by means of radar.

1. radar monitoring (ICAO) -- The radar flight following of aircraft, whose primary navigation is being



performed by the pilot, to observe and note deviations from its authorized flight path, airway or route. When being applied specifically to radar monitoring of instrument approaches; i.e., with PAR or radar monitoring of simultaneous ILS/MLS approaches, it includes advice and instructions whenever an aircraft nears or exceeds the prescribed PAR safety limit or simultaneous ILS/MLS no transgression zone. Also, the use of radar for the purpose of providing aircraft with information and advice relative to significant deviations from the nominal flight path.

- a. radar navigational guidance -- Vectoring aircraft to provide course guidance.

2. radar separation

Radar spacing of aircraft in accordance with established minima. Also the separation used when aircraft position information is derived from radar sources.

radar services terminated

A term used by ATC to inform a pilot that he/she will no longer be provided any of the services that could be received while in radar contact. Radar service is automatically terminated and the pilot is not advised when: an aircraft cancel its IFR flight plan, except within a TCA, TRSA, ARSA or where Stage II service is provided; an aircraft conducting an instrument, visual or contact approach has landed or has been instructed to change to advisory frequency; an arriving VFR aircraft, receiving radar service to a tower-controlled airport within a TCA, TRSA, ARSA or where Stage II service is provided, has landed; or to all other airports, is instructed to change to tower or advisory frequency or; an aircraft completes a radar approach.

radial signal error

The difference between the nominal magnetic bearing to a point of measurement from the ground component and the bearing indicated by the ground component at the same point.

radar sort box/RSB

A rectangular box specified in adaptation which is used for the selective rejection of redundant radar data and to simplify correlation. A grid of identical RSB's covers the entire control area.

### radar surveillance

The radar observation of a given geographical area for the purpose of performing some radar function.

### radar tracking

The observation of the movement of specific radar targets.

1. radar signals for emergency bearing -- Normal aircraft radio signals that are received by direction finders to determine the location of an aircraft in an emergency.

### radar traffic advisories

Advisories issued to alert pilots to known or observed radar traffic which may affect the intended route of flight of their aircraft See traffic advisories.

### radar vector

A heading issued to an aircraft to provide navigational guidance by radar.

### radar weather echo intensity levels

Existing radar systems cannot detect turbulence. However, there is a direct correlation between the degree of turbulence and other weather features associated with thunderstorms and the radar weather echo intensity. The National Weather Service has categorized six levels of radar weather echo intensity. The levels are sometimes expressed during communications as "VIP LEVEL" 1 through 6 (derived from the component of the weather radar that produces the information - Video Integrator and Processor). The following list gives the weather features likely to be associated with these levels during thunderstorm weather situations.

Level 1 (WEAK) and Level 2 (MODERATE). Light to moderate turbulence.

Level 3 (STRONG). Severe turbulence possible, lighting.

Level 4 (VERY STRONG). Severe turbulence likely, lighting.

Level 5 (INTENSE). Severe turbulence, large hail, lighting and extensive wind gusts.

Level 6 (EXTREME). Severe turbulence, large hail, lighting and extreme wind gusts.

### radarsonde observation

A rawinsonde observation in which winds are determined by radar tracking of a balloon borne target.

### radial

A magnetic bearing extending from a VOR/VORTAC/TACAN navigational facility.

### radiation

The emission of energy by a medium, transferred , either through free space or another medium, in the form of electromagnetic waves.

### radiation fog

Fog characteristically resulting when radiational cooling of the earth's surface lowers the air temperature near the ground to or below its initial dew point on calm, clear nights.

### radio

(1) A device used for communications. (2) Used as a reference to Flight Service Stations; e.g., "Seattle Radio" is used to call Seattle FSS.

### radio altimeter/radar altimeter

Aircraft equipment which makes use of the reflection of radio waves from the ground to determine the height of the aircraft above the surface.

### radio beacon

A nondirectional radio transmitting station in a fixed geographical location, emitting a characteristic signal from which bearing information can be obtained by a radio direction finder on an aircraft. See beacon antenna.

### radio compass/ADF

A radio receiver equipped with a rotatable loop antenna which is used to measure the bearing to a radio transmitter.

### radio file

The procedure of filing a flight plan or flight intent with an air traffic service facility via radio while the aircraft is on the ground or in flight. See airfiled flight plan.

### radio frequency/RF

Any frequency of electrical energy above the audio range which is capable of being radiated into space.

1. radio frequency/RF radiation -- Electromagnetic radiation ranging in frequency from 300 kHz to 300 GHz with corresponding wavelengths ranging from  $10^3$ m to 0.1 cm. The microwave region is included in the RF range.

### Radio Magnetic Indicator/RMI

An aircraft navigational instrument coupled with a gyro compass or similar compass that indicates the direction of a selected NAVAID and indicates bearing with respect to the heading of the aircraft.

### radio navigation

See navigation aids.

### radio telecommunications/RTTY

A method of teletypewriter communication using a radio link.

### radiosonde

A balloon borne instrument fused for measuring pressure, temperature, and humidity aloft. Radiosonde observation - a sounding made by the instrument.

### radius of action

The maximum distance that an aircraft can fly from its base before returning to the same or alternate base and still have a designated margin of safety with respect to fuel.

### radome

A bubble type cover for a radar antenna.

### rail

A bar having a smooth surface upon which another component may slide freely.

## RAILS

Integrated helicopter landing system; employs a radar interrogation unit on the aircraft and a special transponder at the landing area. The airborne unit automatically locks onto the ground-based transponder to effect transmission of elevation, azimuth, and distance information.

## rain

A form of precipitation. The drops are larger than drizzle and fall in relatively straight, although not necessarily vertical, paths as compared to drizzle which falls in irregular paths.

## ramp

See apron.

## range height indicator/RHI

A radar indicator scope displaying a vertical cross section of targets along a selected azimuth.

## RAOB/rawin

A radiosonde observation.

## rawinsonde observation

A combined winds aloft and radiosonde observation. Winds are determined by tracking the radiosonde by radio detection finder or radar.

## random access memory/RAM

Computer memory which acts a temporary storage for information or data or for other work which is in progress. It is possible to change the information stored in this type of computer memory, but the contents of RAM are lost when power to the computer has been disrupted or discontinued.

## random sample

A sample in which each item in the lot has an equal chance of being selected in the sample.

## range

(1) The maximum or effective distance which can be traveled. (2) An area used for testing purposes. (3) Receiving margin of a teletypewriter receiver.

### range cell

One quarter (1/4) or one-half (1/2) mile in range (depth) from radar range zero (0). There are 1000 range cells in the PCD: the width of which depends on how fast the radar emits pulses (PRF) and the rotational speed of the antenna.

### range control

(1) The operation of an aircraft to obtain the optimum flying time. (2) A facility used to control test operations.

### range finder

(1) A device used to determine distance. (2) An adjustable mechanism on a teletypewriter receiver which allows the receiver-distributor face to be moved through an arc corresponding to the length of a unit segment. It is adjusted normally for best results under operating line conditions.

### range, maximum

The maximum distance a given aircraft can cover under given conditions by flying at the economical speed and altitude at all stages of flight.

### range ordering

A system used in digitizing whereby transponder signals are ordered in cells on the basis of range.

### range splitting

Characteristic of data received from radars. The data is split into 2 or more segments (targets) rather than being detected as one piece of data (similar to target-splitting).

### raster

A predetermined pattern of scanning lines which provides substantially uniform coverage of a video display area.

### rate center

The term rate center for private line communication services is a specified geographical location from which mileage measurements are determined for the application of inter-exchange mileage rates.

#### rated maximum continuous power

With respect to reciprocating turbo-propeller, and turbo-shaft engines, means the approved brake horsepower that is developed statically or in flight, in standard atmosphere at a specified altitude, within the engine operating limitations.

#### rated maximum continuous thrust

With respect to a turbojet engine type certification, means, the approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations.

1. rated maximum continuous augmented thrust -- With respect to turbojet engine type certification, means the approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations.

#### rated takeoff power

With respect to reciprocating, turbo-propeller and turbo-shaft engine type certification, means the approved brake horsepower that is developed statically under standard sea level conditions, within the engine operating limitations, and limited to a period of not more than 5 minutes for takeoff power.

#### rated takeoff thrust

With respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions without fluid injection and without burning of fuel in a separate combustion chamber, within the engine operating limitations, and limited in use to periods of not over 5 minutes for takeoff operation.

1. rated takeoff augmented thrust -- With respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations.

### rated 30-minute power

With respect to helicopter turbine engines, means the maximum brake horsepower, developed under static conditions at specified altitudes and atmospheric temperatures, under the maximum conditions of rotor shaft rotational speed and gas temperatures, and limited in use to periods of not over 30 minutes as shown on the engine data sheet.

1. rated 2.5-minute power -- With respect to helicopter turbine engines, means the brake horsepower, developed statically in standard atmosphere at sea level, or at a specified altitude, for one-engine-out operation of multi-engine helicopters for 2.5 minutes at rotor shaft rotation speed and gas temperature established for this rating.

### rating

A statement that, as part of a certificate, sets forth special conditions, privileges or limitations.

### ratio, cancellation

A measure of the sweep-to-sweep cancellation of fixed radar echo signals. Utilized to recognize moving targets from non-moving targets.

### read back

A term which means "repeat my message back to me."

### read only memory/ROM

Computer memory which can be read but not altered. The contents of ROM are not lost when power is interrupted or discontinued to the computer.

### read out

- (1) To acquire information from the computer on a specified item, such as range/bearing/time for an aircraft to a fix.
- (2) Output from a computer on a read out device, flight strip printer, input/output typewriter, etc.

### read/write head

That part of a computer disk/tape drive which transfers information to and from a disk/tape.



### reader

A projection device for viewing an enlarged microfilm image with the unaided eye.

1. reader/printer -- A machine which combines the function of a reader with a paper enlargement capability.

### real-time airport data

Essential dynamic data relative to a given airport required by the approach controllers serving that airport which includes wind, wind shear, runway visibility, runway light settings, runway configuration, AWOS data, etc.

### real-time operation

Processing data in synchronism with a physical process in such a fashion that the results of the data processing are useful to the physical operation and relate to the passage of real time.

### real-time programs

Programs that operate on dynamic data, generated by a live environment, during the actual time that the data is generated in order that results of the operation are useful in guiding the live environment.

### real-time reaction

A response to a penetration attempt which is detected and diagnosed in real time to prevent the actual penetration.

### receive

To acquire transmitted information by seeing or listening, without necessarily taking action to express approval.

### receiving controller/facility

A controller/facility receiving control of an aircraft from another controller/facility.

### receiving margin

Sometimes referred to as range or operating range. The usable range over which the range finder may be adjusted. The normal range for a properly adjusted machine is approximately 75 points on a 120-point scale.

### receiving path side lobe suppression/RSLS

Equipment that cancels replies received on the side lobes of the ground interrogator antenna.

### recommended collision avoidance maneuvers

Information generated as an output from a TCAS II collision avoidance system that is displayed to the flight crew.

### reconfiguration (automatic or manual)

(1) Automatic reconfiguration is the ability of the computer program to recognize a failure and switch the failed element, or device, out of the operational system and replace it with a stand-by unit. Manual reconfiguration is the same automatic reconfiguration except that an input from a supervisory position is required to make the transfer of one element, or device, to a stand-by unit. (2) The reassignment of airspace responsibility. This change is usually brought about by the need to either create additional sectors or to reduce the quantity of sectors in an ARTCC. See re-sectorization, back-up device.

### record

A collection or grouping of information. The term record includes not only paper documentation but also other record media such as microfilm, sound recordings, magnetic tape or any other machine readable device.

1. records management -- The planning, controlling, directing, organizing, promoting and other managerial activities involved with respect to records creation, records maintenance and use, and records disposition.
2. records material -- All books, maps, photographs, papers or other documentary material, regardless of physical form or characteristics preserved or appropriate for preservation by an organization, because of the value associated with the information.

### recording control table

Pre-specified blocks of data which contain an identification of the data block, a time of recording, a frequency of recording, and the recording level. It is assembled initially in non-real time and may be changed at start-up/start-over time by either reading in a new system master tape or reading in binary (tape or cards) revisions.

### recovery

Penetration and approach of aircraft.

### recovery data

That portion of the total data base, utilized by the operational computer program, which is required to reconstruct the program environment necessary for effective resumption of operational program data processing activities after a halt in system operation which causes partial or complete destruction of the contents of memory.

### recovery procedures

The actions necessary to restore a system's computational capability and data files after a system failure or penetration.

### red-black areas

Designation for classified (red) and unclassified (black) enclosures housing circuits, equipment, or information. The plain text of a classified message is processed in the black area; the secure or encrypted version of that message is processed in the red area of a crypto center. Restricted access for personnel applies to any red area.

### reduce speed to

See speed adjustment.

### reduced facility/service operation

When a facility or service is in use but is not capable of fulfilling its complete intended mission and the AT personnel in charge declares an operational impact such as: necessity to combine positions, delay of air traffic and loss of essential air traffic control functions.

### reduced mode

Reduced mode is defined when a sub-system experiences a failure within the system which causes some services to be temporarily interrupted, provided that the minimum level of functional performance is maintained (e.g., surveillance, automatic tracking, automatic handoff, flight plan processing).

### reduction ratio

A measure of the number of times a given linear dimension of an object is reduced when photographed, expressed as 24X, 48X, etc.

### redundancy

The existence of more than one means of accomplishing a given task, where all means must fail before there is an overall failure to the system.

1. active redundancy -- That redundancy where in all redundant items are operating simultaneously rather than being switched on when needed.
2. standby redundancy -- That redundancy wherein the alternative means of performing the function is inoperative until needed and is switched on upon failure of the primary means of performing the function.

### redundant route

With respect to communications, a duplicate route of another, both routes being used for the same purpose and transmitting the same intelligence. If transmissions occur over different geographical routes, these are called diverse routes.

### re-entry track

An associated track commencing at the end of an MTR maneuver area on which low-level re-entry can be achieved for the purpose of executing an additional run through the area.

### reference fix

A flight plan's earliest unexpired fix.

### reference noise

Usually refers to a noise power of  $10^{-12}$  watts (-90 dBm) at 1000 Hz. This amount of power is used as a reference in noise meters where noise power is measured in dBrn. If an F1A weighting is used, reference noise is  $10^{-11.5}$  (-85 dBm). If C-message weighting is used, reference noise is  $10^{-12}$  watts (-90 dBm).

### reference time

The time associated with a flight plan's reference fix.

### referent flight plan/RFP

A flight plan in computer storage with which the operator wishes to identify a sim flight. Such identification is made to obtain initial command parameters and/or starting point for a sim flight.

### referred

Output to other sources rather than the input source (pertains to error or rejection messages).

### refraction

In radar, bending of the radar beam by variations in atmospheric density, water vapor content, and temperature.

1. normal refraction -- Refraction of the radar beam under normal atmospheric conditions. The normal radius of curvature of the beam is about 4 times the radius of curvature of the Earth.
2. superrefraction -- More than normal bending of the radar beam resulting from abnormal vertical gradients and/or water vapor.
3. subrefraction -- Less than normal bending of the radar beam resulting from abnormal vertical gradients of temperature and/or water vapor.

### refresh, display

A periodic updating of a display system. The display update is usually performed at a flicker-free rate.

### reflections

Spurious signals caused by interrogation or reply pulses which are reflected to the receivers from extraneous objects such as buildings, hills or other aircraft.

### refueling level

A block of consecutive cardinal altitudes from ARIP to egress point within which entry into the refueling track, maneuver to rendezvous and transfer of fuel is accomplished.

### Regional Operations Control Center/ROCC

A military radar facility which has the capability to conduct air defense operations in a designated area.

#### registration error

Errors in the radar reported p and 0 that result in several radars reporting the same target at the same time at different positions in the system plane.

#### regrade

A determination that classified information requires a different degree of protection against unauthorized disclosure than currently provided, together with a change of classification designation that reflects such different degree of protection.

#### reimbursable

The mean under which the FAA maintains someone else's equipment/facilities and receives a reimbursement for this service.

#### reject

To refuse to accept an action which is normally accepted, e.g., a handoff.

#### related facility/service interruption

An interruption of a facility/service caused or necessitated by an interruption of another facility/service.

#### relative envelope delay

The maximum range or difference in delay values in a channel. It is measured at various frequencies with a specific frequency selected as a reference point for all other frequencies. The envelope delay at the reference frequency is considered to be 0 microseconds, and all other frequencies will have more (+) or less (-) envelope delay than will the frequency of reference.

#### relative time(s)

See stored fix time(s).

#### release time

A departure time restriction issued to a pilot by ATC (either directly or through an authorized relay) when necessary to separate a departing aircraft from other traffic.

### release time (ICAO)

Time prior to which an aircraft should be given further clearance or prior to which it should not proceed in case of radio failure.

### reliability

(1) The characteristic of an item expressed by the probability that it will perform a required function under stated conditions for a stated period of time. See availability.

1. inherent reliability -- The potential reliability of an item as defined by its design configuration.
2. predicted reliability -- The reliability of a piece of equipment, computed from its design considerations and from the reliability of its parts in the intended conditions of use.

### reliability engineering

The engineering discipline which formulates an acceptable combination of design features, repair philosophy and maintenance resources to achieve a specified level of reliability as an operational requirement, at optimum life cycle costs.

### reliability requirement

A level of reliability expressed in an equipment specification as a design requirement and supported with a reliability acceptance test.

1. reliability demonstration tests -- Acceptance tests (performed by a contractor) usually at the equipment or sub-system level for the major items which will comprise the integrated system to demonstrate conformance to specified quantitative reliability requirements.

### rem

A unit of radiation dosage. It is the measure of the dose of any ionizing radiation to body tissue in terms of its estimated biological effects relative too a dose of 1 rad of 250 kv x-rays. The relation of the rem to other dose units depends upon the biological effect under consideration and upon the conditions of irradiation. The following are considered to be equivalent to a dose of 1 rem: a dose of 1 R due to x or gamma radiation; a dose of 1 rad due to x,

gamma or beta radiation, a dose of 0.1 rad due to neutrons, or a dose of 0.05 rad due to alpha radiation (intentional exposure).

#### remanence

The residual magnetism that remains on magnetic storage media after degaussing.

#### remote

Relating to the acquisition of information about a distant object without coming into physical contact with it.

#### Remote Communications Air/Ground Facility/RCAG

An unmanned VHF/UHF transmitter/receiver which is used to expand ARTCC air/ground communications coverage and to facilitate direct contact between pilots and controllers. RCAG facilities are sometimes not equipped with emergency frequencies. The facilities are dispersed geographically in order to achieve effective radio coverage.

#### Remote Communications Outlet/RCO and Remote Transmitter/Receiver/RTR

An unmanned communications facility remotely controlled by air traffic personnel. RCO's serve FSS's RTR's serve terminal ATC facilities. An RCO or RTR may be UHF or VHF and will extend the communication range of the air traffic facility. There are several classes of RCO's and RTR's. The class is determined by the number of transmitters or receivers. Classes A through G are used primarily for air/ground purposes. RCO and RTR class O facilities are non-protected outlets subject to undetected and prolonged outages. RCO (O's) and RTR (O's) were established for the express purpose of providing ground-to-ground communications between air traffic control specialists and pilots located at satellite airports for delivering en route clearances, issuing departure authorizations and acknowledging instrument flight rules cancellations or departure/landing times. As a secondary function, they may be used for advisory purposes whenever the aircraft is below the coverage of the primary air/ground frequency.

#### remote device

A device which is external to the ARTCC and has input/output capability to/from the CCC (TTY or FDEP). Examples include other NAS facilities, FDEP-equipped facilities and service B facilities.



remote error referral interval/RERI

An interval after computer receipt of a message from a remote source (TTY or FDEP) during which the source may respond with correction message.

Remote Maintenance Monitoring System/RMMS

The entire monitoring system including sensors, remote microprocessors, communication links, MPS and terminals.

Remote Monitoring Subsystem/RMS

That equipment at a remote site used to monitor the operational status and determine failures of NAS equipment.

remote scope

In radar meteorology, a "slave" scope remoted from weather radar.

remote terminal room

An enclosed area or room which houses one or more remote terminals or remote job entry devices. Synonymous with terminal cluster room.

remotely piloted vehicle/RPV

A pilotless aircraft, including drones, which is remotely controlled by an external source, either airborne or on the surface.

remove

To cancel information in the computer. Comparable to delete.

rendezvous

A planned arrival of two or more aircraft over a predetermined point terminating in a visual contact prior to effecting a refueling hook-up or conducting other activities requiring proximate operations.

renewable energy source

Resources such as sunlight, wind, geothermal, bio-mass, solid waste or other regenerating sources. See solar energy.

### repeater

A device which amplifies or reshapes and/or re-times an input signal for further transmission. Some repeaters are separate amplifiers for each direction of transmission, while others use one amplifier for both directions.

### repeating coil

A transformer. There are numerous impedance ratios available to match a variety of telephone cable and equipment impedances. A repeating coil is sometimes called a repeat coil, or coil.

### repel

To push away; to present any opposing force.

### reperforator

A paper tape punch which is controlled electrically. It is used for punching tape on-line. Reperforators, when installed in ASR Teletypewriters, may be used as perforators, for manually punching tape, as well as for producing a tape from on-line traffic.

1. reperforator transmitter/RT -- A teletypewriter receiver-transmitter consisting of a reperforator and a tape distributor, each of which is independent of the other. It is used as a relaying device and is especially suitable for transforming the incoming speed to a different outgoing speed.

### replaceable spare part

A part interchangeable with a part being used in equipment, but furnished separately and not required for operation except as a replacement (often called spare part).

### reply efficiency

The percentage of interrogations from a specific interrogator to which the transponder replies within a given time interval when the transponder is under specific load conditions.

### report

- (1) Used to instruct pilots to advise ATC of specified information; e.g., "Report passing Hamilton VOR."
- (2) A message containing surveillance data on a target aircraft.
- (3) Data or information requested by one organization from

another to be used in determining policy; planning, controlling and evaluating operations and performance; making administrative determinations, and establishing and maintaining official records or preparing documents.

1. ADP report -- Information obtained by manipulating and withdrawing data already contained in a computer data base.
2. feeder report -- Information collected from sub-elements in response to an internal recurring information request.
3. issued report -- A report which is prepared and released by an organization from data available within its own organization.
4. one time reports -- Information requested only once, as opposed to a recurring report.
5. recurring report -- Any information collection activities conducted at regular intervals or on an as required basis whenever certain criteria are met.

#### report date/time of an interruption

When referring to an interruption incident, the report date/time will always be the time when the interruption first occurred. If interruption time is not available, the time when the FAA is first made aware will be used. All times are entered as Greenwich Mean Time/GMT.

#### report identification symbol/RIS

A group of letters and numbers which identifies an approved internal recurring report.

#### report period

A method for identifying the time interval associated with a particular recurring reporting system.

#### reportable facility

Any commissioned facility, including reimbursable facilities for which reporting of interruptions has been designed. Commissioned facilities are those listed in the Facilities Master File/FMF under status codes D,E,F, and G and responsibility codes A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R,S,T,U,V,W,X,Y,Z,1,2,3,9.

### reportable service

Any service for which reporting of interruptions has been designated. Services are listed in the FMF under Status Code Z.

### reported altitude

The last altitude/flight level at which a flight has reported.

### reporting point

A geographical location in relation to which the position of an aircraft is reported. See compulsory reporting point. (Refer to AIM)

### reporting point (ICAO)

A specified geographical location in relation to which the position of an aircraft can be reported.

### reposition/update

To re-associate or collocate a data block and a target and provide current data on the data block.

### request

To ask another for information on or approval of an item, e.g., to request a beacon code for assignment to an aircraft.

### request for access

A request by an individual or other authorized person to see a record which is in a particular system of records.

### request full route clearance

Used by pilots to request that the entire route of flight be read verbatim in an ATC clearance. Such request should be made to preclude receiving an ATC clearance based on the original filed flight plan when a filed IFR flight plan has been revised by the pilot, company or operations prior to departure.

### requirement

A specified capability which must be provided by the NAS.

1. functional requirement -- Type of requirement that describes what the system must do to satisfy the operational requirements. A functional requirement must have an action verb and should have well defined inputs and outputs.
2. general requirement -- Type of requirement that relates the characteristics of the operational requirements.
3. operational requirement -- Type of requirement that qualifies and quantifies the services and products which must be provided to users and specialists. Operational requirements should be directly related to the NAS mission.
4. specific requirements -- Type of requirement that describes how well a function or service must be performed and may be either qualitative or quantitative.

#### reroute

A programmed procedure which delivers an output to a physical device other than the intended physical device. It is performed at program option when an output to the intended device was unsuccessful.

#### rescue

Used for system recovery (in the re-establish mode) necessitated by data base invalidity or operator request. This mode is effected by utilization of recovery data to recreate the data base which existed before detection of the start-over requirement.

#### Rescue Coordination Center/RCC

A primary search and rescue (SAR) facility suitably staffed by supervisory personnel and equipped for coordinating and controlling SAR operations in a region, sub-region, or sector as defined by the National SAR Plan. The U.S. Coast Guard and the U.S. Air Force have responsibility for the operation of RCC's.

#### Rescue Co-ordination Center (ICAO)

A unit responsible for promoting efficient organization of search and rescue service and for coordinating the conduct of search and rescue operations within a search and rescue region.

### re-sequence

To rearrange the order of flight plans.

### reset

(1) The state of equipment in an at-rest, un-operated or idle-line condition. Synonymous with cleared in digital logic. (2) The process of restoring equipment to its initial state.

### residue

Data left in storage after processing operations, and before degaussing or rewriting has taken place.

### resolution

(1) The sharpness of the display on a video monitor. (2) The number of units or digits to which a measured or calculated value is expressed and used. As an example, the distance 15.2 NM is expressed to a resolution of one tenth of a nautical mile. (3) The ability of radar to show discrete targets, i.e., the better the resolution, the closer two targets can be to each other, and still be detected as separate targets.

1. beam resolution -- The ability of radar to distinguish between targets at approximately the same range but at different azimuths.
2. range resolution -- The ability of radar to distinguish between targets on the same azimuth but at different ranges.

### resolution advisory

A TCAS display indication given to the pilot recommending a maneuver to increase vertical separation relative to an intruding aircraft. Positive, negative and vertical speed limit/VSL advisories constitute the resolution advisories. A resolution advisory is also classified as corrective or preventive.

### resource

In an AIS, any function, device or data collection that may be allocated to users or programs.

1. resource sharing -- In an AIS, the concurrent use of a resource by more than one user, job or program.

respondent

Any person, agency or organization from which information is requested or to which information is made available.

response time

The time from the start of an operation until the time the output of the operation results.

rest (at)

The condition from which a mechanical operation begins. Spring action or other mechanical action may cause the parts to assume this condition for each cycle of operation.

restoration

All hardware or software activities required to return a service, facility, system, subsystem or equipment to operational status following a facility/service interruption, equipment failure or out-of-tolerance/limit condition.

restore

To bring back into being, e.g., remove an inhibit of a function such as MSAW.

restrict

To provide limits to an activity, such as air traffic in a defined area.

restricted area

(1) A room, area or facility having critical activities, equipment or information to which unrestricted access cannot be allowed for reasons of safety, operational necessity or the need to protect the data processed or stored within the area. (2) See special use airspace.

restricted area (ICAO)

An airspace of defined dimension, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

### restricted data

All data concerning their design, manufacture or utilization of atomic weapons; the production of special nuclear material; or the use of special nuclear materials in the production of energy.

### restrictions relating to flight procedures

Any requirement, limitation or other action affecting the operation of aircraft, in the air or on the ground.

### re-sectorization

The splitting or rearrangements of geographic sectors including sector stratification. This is usually the result of rearrangement of center boundaries, shifting of traffic load geographically, implementation of major system changes such as the Long Range Radar Program, NAS Stage A, or similar items. This term is strictly a paper re-sectoring and in itself does not involve position or console changes. See combining/de-combining.

### re-sequencing

The process of reordering the schedule by changing the position in the schedule of an aircraft that is excessively late or has executed a missed approach.

### response time

In telephone switching it is defined as the maximum time required for a call to be completed, from the completion to the time the position or trunk is reached. The time includes only the switching time through the system; specifically, it does not include dialing on a trunk after the trunk has been accessed. This definition also assumes that there is not blocking to obstruct the call. The amount of blocking permitted, if any, is another factor.

### restricted area

Airspace of defined dimensions identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions.

### resume own navigation

Used by ATC to advise a pilot to resume his/her own navigation responsibility. It is issued after completion of a radar vector or when radar contact is lost while the



aircraft is being radar vectored. See radar contact lost, radar service terminated.

#### resume transmission

To resume transmission of information to a specific facility or FDEP device in a manner that provides notification to affected sectors/facilities via strip coordination indicator.

#### retract

To take back, negate or withdraw the start of an action such as a handoff.

#### re-triable error

A hardware error for which it is determined that a repeat attempt at the unsuccessful task which produced the error is both possible and is likely to be successful. See non-transient error, transient error.

#### retrofit

(1) As applied to planes or air terminals, retrofit is the installation of new or improved systems designed to improve performance; e.g., retrofit of fan jet engines to a non-fan-jet aircraft, or the construction of a new runway pattern at an air terminal. (2) To install an alternative building space-conditioning system in an existing building.

#### retry

A programmed procedure which will attempt to re-execute the instruction which produced a hardware error. Generally, this involves the 'N Times Retry' of a start I/O instruction (where  $N \geq 0$ ) via all (either 1 or 2) available paths to the intended device. See non re-triable I/O error, unsuccessful I/O operation.

#### return loss

A ratio, expressed in dB, of the reflected wave to the incident wave. Return loss is encountered when converting a circuit from four wire to two wire and is the result of impedance mismatches, which create a path to return some of the receive signal to the originating end. If the return loss ratio is too low, conditions such as loud echo, hollow, singing, etc., may be heard on a circuit.

1. return loss measurement -- A measurement of mismatch between the actual transmission circuit impedance and nominal circuit impedance.

#### returned

Pertaining to program responses to an input message, outputted at the source position.

#### revenue (air carrier)

1. revenue passenger enplanements -- The total number of passengers boarding aircraft (domestic, territorial and international scheduled and non-scheduled service of air carrier and foreign air carriers in intra-state and inter-state commerce). This includes both originating and connecting passengers.
2. revenue passenger load factor -- Revenue passenger-miles as a percent of available seat-miles in revenue passenger services, i.e., the proportion of aircraft seating capacity that is actually sold and utilized.
3. revenue passenger mile/PRM -- One revenue passenger transported one mile in revenue service. Revenue passenger miles are computed by summation of the products of the revenue aircraft miles flown on each inter-airport hop multiplied by the number of revenue passengers carried on that hop.

#### revision indicator

A number printed on a reprinted flight strip resulting from an amendment (message).

#### revert

To go to the use of another procedure, such as backup operations.

#### review

To look over and study conditions or situations, or examine something again, as in reviewing the completeness of a flight plan.

#### revolution (of the earth)

The earths elliptical path about the sun which determines the length of the year and causes the seasons.

### RGB (red-green-blue)

A set of separate video signals used by color video signals used by color video monitors to produce a color display and by monochrome monitors to produce different shades of one color. The addition of an intensity signal allows many more colors or shades to be displayed.

### rho-theta

A term used to describe distance (rho) and direction (theta) from a fixed point.

1. rho-theta system -- A navigation system based on azimuth (theta) and range (rho) relative to a properly equipped radar center.

### rhumb line

(1) A line on the surface of a sphere which makes equal oblique angles with all meridians. (2) A loxodromic curve.

### ridge/ridge line

In meteorology, an elongated area of relatively high atmospheric pressure; usually associated with and most clearly identified as an area of maximum anticyclonic curvature of the wind flow (isobars, contours, or streamlines).

### rime icing

The formation of a white or milky and opaque granular deposit of ice. It is formed by the rapid freezing of supercooled water droplets as they impinge upon an exposed aircraft.

### ring-around-the-rosie

A condition where an intermediate EVS System associated with a tandem connection will attempt to establish a through-connection with the originating EVS System.

### ring back

An audible information tone that is returned to the calling party when the VF circuit connection has been established and a visual and/ or audible alert indication is presented to the called party.

### ringdown

The type of telephone signaling used in manual operations, as differentiated from dial signaling. Ringdown signaling uses a continuous or pulsing ac transmitted over the line. The term ringdown originated in magneto telephone operation, where cranking the magneto of a subscriber set would "ring" its bell and cause a signal to fall "down" at the central switchboard.

### risk

(1) The probability of occurrence of a specified deleterious consequence with a specific dimension; e.g., number of fatalities. (2) The probability or likelihood of a given loss or damage to a particular system, facility or major application.

### risk analysis

The process of evaluating identified threats to determine their impact upon a facility, operation, organization or other users. The objectives of a risk analysis is to assess the severity of risk and weigh the expected losses that they may be ranked according to degree of acceptability or unacceptability. There are three types of risk analysis that may be conducted simultaneously or independently.

1. comprehensive assessment -- A risk analysis that includes both facility and system/application reviews.
2. facility assessment -- This type of risk analysis is oriented towards the threats against structures or property.
3. system/application assessment -- This category of risk analysis is directed at the threats against sensitive and/or critical files and/or applications.

### risk management

An element of management science concerned with identifying, measuring and minimizing the effects of untoward events. The objective of the risk management process is to enable operations to be conducted within an environment of acceptable risk to losses through destruction, delay, disclosure and modification. When applied to the security of computer operations, risk management encompasses: risk analysis; management decision; control implementation; and effectiveness control.

## RNAV

See Area Navigation.

1. RNAV approach -- An instrument approach procedure which relies on aircraft area navigation equipment for navigational guidance. See instrument approach procedure.
2. RNAV route -- An en route segment, arrival or departure route (including RNAV SIDs and STARs). It may also include en route segments established with gaps in station coverage for use by RNAV equipped aircraft capable of automatic dead reckoning. The en route phase is normally construed as operations either on RNAV routes designated as high/low altitude routes, or direct point-to-point operations between designated waypoints. The terminal phase is considered as the transition from the departure runway to the first en route waypoint, or the transition from the en route phase of the last en route waypoint until the initial approach fix/waypoint. A nominal value for the extent of the terminal phase would be the airspace extending approximately 50 miles from the departure or arrival airport. The approach phase is that portion of the flight starting at the initial approach fix/waypoint and terminating at the missed approach point. Normally, the final approach fix/waypoint is located within 10 miles from the runway threshold. The missed approach area is included in the approach phase in order to define accuracy requirements.
  - a. RNAV low routes -- An area navigation route within the airspace extending upward from 1,200 feet above the surface of the earth to, but not including 18,000 feet MSL.
  - b. RNAV high routes -- An area navigation route within the airspace extending upward from and including 18,000 feet MSL to flight level 450.
  - c. random RNAV routes -- Direct routes, based on area navigation capability, between waypoints defined in terms of latitude/longitude coordinates, degree/distance fixes, or offset from published or established routes/airways at a specified distance and direction.
3. RNAV waypoint -- A predetermined geographical position for route or instrument approach definition or progress reporting purposes that is defined relative to a VORTAC

station position or in terms of latitude/longitude coordinates.

road reconnaissance/RC

Military activity requiring navigation along roads, railroads and rivers. Reconnaissance route/route segments are seldom along a straight line and normally require a lateral route width of 10 NM to 30 NM and an altitude range of 500 feet to 10,000 feet AGL.

rocker

A component which swings back and forth usually less than 180°. One which oscillates.

rocket

An aircraft propelled by ejected expanding gasses generated in the engine from self-contained propellants and not dependent on the intake of outside substances. It includes any part which becomes separated during the operation.

rocketsonde

A type of radiosonde launched by a rocket and making its measurements during a parachute descent. It is capable of obtaining soundings to a much greater height than is possible by balloon or aircraft.

roentgen/R

A unit of exposure dose. It is that quantity of x or gamma radiation which produces one electrostatic unit of positive or negative electricity per cubic centimeter of air at standard temperature and pressure or  $2.083 \times 10^9$  ion pairs per cubic centimeter of dry air.

roger

I have received all of your last transmission. It should not be used to answer a question requiring a yes or a no answer. See affirmative, negative.

roll

The angle between the lateral axis and horizontal axis of an aircraft.

roll call

A sequential interrogation of approaching aircraft.

### roll cloud

A dense and horizontal roll shaped accessory cloud located on the lower leading edge of a cumulonimbus or less often, a rapidly developing cumulus. It is indicative of turbulence. It should not be confused with a rotor cloud.

### rollout RVR

The RVR readout values obtained from RVR equipment located nearest the runway end.

### rotation (of the earth)

The spinning of the earth from west to east on its own axis which determines the days.

### rotor cloud

A turbulent cloud formation found in the lee of some large mountain barriers. The air in the cloud rotates around an axis parallel too the range. This type of cloud indicates possible violent turbulence. It should not be confused with a roll cloud.

### rotorcraft

A heavier-than-air aircraft that depends principally for its support in flight on the lift generated by one or more rotors.

### rotorcraft-load combination

The combination of a rotorcraft and external load, including the external load attaching means. Rotorcraft load combinations are designated as follows: Class A is one in which the external load cannot be moved freely, cannot be jettisoned, and does not extend below the landing gear; Class B is one in which the external load is jettisonable and is lifted free of land or water during the rotorcraft operation; and Class C is one in which the external load is jettisonable and remains in contact with land or water during rotorcraft operation.

### round-robin

A flight whose destination fix is the same as the departure point.

### route/route of flight

(1) A defined path, consisting of one or more courses, which an aircraft traverses in a horizontal plane over the surface of the earth. (2) A series of route segments. See airway, jet route, published route, track.

### route segment

(1) A continental or insular geographical location. (2) A point at which a definite radio fix can be established. (3) As used in air traffic control, a part of a route that can be defined by two navigational fixes, two NAVAIDs or a fix and a NAVAID. (see fix, route). A portion of Route of Flight as follows:

1. Direct -- A line determined by two successive converted fixes on the route of flight.
2. Airway -- A line determined by an airway filed in the flight plan route.
3. Area -- Area segments are non-direct portions of a route such as: hold or delay, maneuvers. Area segments are route segments of specified dimensions (usually circular) within which a flight will operate for a predetermined interval of time.

### route segment (ICAO)

A portion of a route to be flown, as defined by two consecutive significant points specified in a flight plan.

### route match

The process will operate on all tracks and their respective paired flight plans whether active or pending. First a flight plan route segment check; and second, a flight plan fix check.

### route overlap

The substitution of all or part of a preferential route for a filed route during route conversion.

### route tailoring

The systematic elimination of non-pertinent previous route elements from succeeding strips as a flight progresses along its route.



### route truncation

The exclusion of non-pertinent succeeding route elements from flight strips.

### routine

Functions or services that, if lost, would not significantly degrade the capability of the NAS to exercise safe separation and control over aircraft.

### routine, diagnostic

A computer subroutine used to locate a malfunction in a computer, or to aid in locating mistakes in a computer program, in general, any routine specifically designed to aid in debugging or trouble shooting.

### routine test

Tests performed at specified intervals of time to check the performance of a circuit. The circuit may be "routined" quarterly (four times a year) at which time specific transmission and supervisory tests may be performed. Routine tests do not, as a rule, include all the tests performed on a circuit order.

### routine use

Use which is compatible with the purpose for which a record was collected.

### row

A horizontal series of data.

### running fix

A fix determined from a series of lines of position, based on the same object or body and resolved for a common time.

### running open

(1) An absence of loop current due to line malfunction or other cause. (2) A term used to describe a teletypewriter machine connected to an open line or a line without a battery. (3) A steady spacing signal on the data loop or circuit, causing the receiving equipment to cycle continuously without printing characters. A teletypewriter receiver under such a condition appears to be running, as

the type hammer continually strikes the type box but does not move across the page.

### runway

A defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length. Runways are normally numbered in relation to their magnetic direction rounded off to the nearest 10°; e.g., Runway 01, Runway 25. See parallel runways.

### runway condition reading/RCR

Numerical decelerometer readings relayed by air traffic controllers at USAF and certain civil bases for use by the pilot in determining runway braking action. These readings are routinely relayed only to USAF and Air National Guard aircraft. See braking action.

### runway configuration (RWY) in use

A selectable adapted item which specifies the landing runway configuration or direction of traffic flow. The adapted optimum flight plan from each transition fix to the vertex is determined by the runway configuration for arrival metering processing purposes.

### runway environment

The runway threshold or approved lighting aids or other markings identifiable with the runway.

### runway gradient

The average slope, measured in percent, between two ends or points on a runway. Runway gradient is depicted on Government aerodrome sketches when total runway gradient exceeds 0.3%.

### runway heading

The magnetic direction indicated by the runway number. When cleared to "fly/maintain runway heading," pilots are expected to comply with the ATC clearance by flying the heading indicated by the runway number without applying any drift correction; e.g., Runway 4, 040° magnetic heading; Runway 20, 200° magnetic heading.

### runway in use/active runway/duty runway

Any runway or runways currently being used for takeoff or landing. When multiple runways are used, they are all considered active runways.

### runway lights

See airport lighting.

1. runway light intensity setting -- An indication of the intensity level of the runway edge and centerline lights. This information is needed by the controller and RVR equipment.

### runway markings

See airport marking aids.

### runway number designation

Numerical designation of runways - e.g., 4/22 runways - denotes the compass heading of a runway to the nearest 10°. For example, 4/22 stands for 40° and 220°, where the 4 would designate the southwesterly approach to the runway (heading of 40°), and the 22 would designate the northeasterly approach (heading of 220°). Further designations of L and R indicate the left or right sides of dual runway systems.

### runway profile descent

An IFR air traffic control arrival procedure to a runway published for pilot use in graphic and/or textual form and may be associated with a STAR. Runway profile descents provide routing and may depict crossing altitude, speed restrictions and headings to be flown from the en route structure to the point where the pilot will receive clearance for and execute an instrument approach procedure. A runway profile descent may apply to more than one runway if so stated on the chart. (Refer to AIM)

### runway temperature

The temperature of the air just above the runway, ideally at engine and/or wing height. It is used in the determination of density altitude, and is useful at airports when critical values of density altitude prevail.

### runway threshold

The physical beginning of a runway.

### runway use program

A noise abatement runway selection plan designed to enhance noise abatement efforts with regard to airport communities for arriving and departing aircraft. These plans are developed into runway use programs and apply to all turbojet aircraft 12,500 pounds or heavier; turbojet aircraft less than 12,500 pounds are included only if the airport proprietor determines that the aircraft creates a noise problem. Runway use programs are coordinated with FAA offices, and safety criteria used in these programs are developed either as "Formal" or "Informal" programs.

1. formal runway use program -- An approved noise abatement program which is defined and acknowledged in a Letter of Understanding between Flight Operations, Air Traffic Service, the airport proprietor, and the users. Once established, participation in the program is mandatory for aircraft operations and pilots as provided for in FAR 91.87.
2. informal runway use program -- An approved noise abatement program which does not require a Letter of Understanding, and participation in the program is voluntary for aircraft operators/pilots.

### runway visibility

(1) This is the distance down the runway the pilot can see unlighted objects or un-focused lights of moderate intensity. (2) The meteorological visibility along an identified runway determined from a specified point on the runway. It is determined by a transmissometer or by an observer.

### runway visibility range/RVR

An instrumentally derived horizontal distance a pilot should see down the runway from the approach end. It is based on either the sighting of high intensity runway lights or on the visual contrast of other objects, whichever yields the greatest visual range. See visibility.

1. RVR threshold -- Runway visual range (RVR) is the distance down a runway that a pilot can see high intensity runway lights. The RVR threshold is a controller-specified visual limit. When the visibility drops below this threshold, the controller is alerted.

## S-line

Forces a posting in a FPA for direct route processing.

## safe stored data

Data stored in such a manner that a power failure will not cause the stored data to be lost; non-volatile storage.

## safety

(1) The quality of being devoid of whatever exposes one to danger or harm. (2) Freedom from conditions that can cause death, injury, occupational illness or damage to or loss of equipment or property.

1. safety advisory/alert -- A safety advisory is issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which, in the controller's judgement, places the aircraft in unsafe proximity to terrain, obstructions or other aircraft. The issuance of a safety advisory is contingent upon the capability of the controller to have an awareness of an unsafe condition. The controller may discontinue the issuance of further alerts if the pilot advises he is taking action to correct the situation or has the other aircraft in sight.
  - a. terrain/obstruction alert -- A safety alert issued by ATC to aircraft under their control if ATC is aware the aircraft is at an altitude which in the controller's judgement, places the aircraft in unsafe proximity to terrain/obstacles; e.g., "Low Altitude Alert, check your altitude immediately."
  - b. aircraft conflict alert -- A safety alert issued by ATC to aircraft under their control if ATC is aware of an aircraft that is not under their control at an altitude which, in the controller's judgement, places both aircraft in unsafe proximity to each other. With the alert, ATC will offer the pilot an alternate course of action when feasible; e.g., "Traffic Alert, advise you turn right heading zero niner zero or climb to eight thousand immediately."

The issuance of a safety alert is contingent upon the capability of the controller to have an awareness of an unsafe condition. The course of action provided will be predicated on other traffic under ATC control. Once the alert is issued, it is solely the pilot's prerogative to determine what course of action, if any, he/she will take.

### sail back

A maneuver during high wind conditions (usually power off) where float plane movement is controlled by water rudders/opening and closing cabin doors.

### Saint Elmo's Fire (corposant)

A luminous brush discharge of electricity from protruding objects, such as masts and yardarms of ships, aircraft, lightning rods, steeples, etc., occurring during stormy weather.

### sanitizing

The degaussing or overwriting of sensitive information in magnetic or other storage media. Synonymous with scrubbing.

### Santa Ana

A hot, dry, foehn wind, generally from the northeast or east, occurring west of the Sierra Nevada Mountains, especially in the pass and river valley near Santa Ana, California.

### satellite airport

(1) An airport that is associated with another airport and uses all of the airport-adapted data of the airport it is associated with except for name, location, and the satellite FDEP name, if any. (2) In many instances a community is served by several airports, one of which serves a significant volume of air carrier and/or high performance military aircraft, while the others serve general aviation aircraft. These latter airports are "satellite airports".

### saturated adiabatic lapse rate

The rate of decrease of temperature with height as saturated air is lifted with no gain or loss of heat from outside sources. It varies with temperature, being greater at low temperatures. See adiabatic process and dry adiabatic lapse rate.

### saturation

The condition of the atmosphere when actual water vapor present is the maximum possible at existing temperature.

### say again

Used to request a repeat of the last transmission. Usually specifies transmission or portion thereof not understood or received; e.g., "Say again all after ABRAM VOR."

### say altitude

Used by ATC to ascertain an aircraft's specific altitude/flight level. When the aircraft is climbing or descending, the pilot should state the indicated altitude rounded to the nearest 100 feet.

### say heading

Used by ATC to request an aircraft heading. The pilot should state the actual heading of the aircraft.

### scan

(1) The motion of a beam of RF energy caused by rotating or displacing the reflecting element or the antenna in relation to the reflecting element. (2) The search pattern of an antenna. (3) One complete circular, up-and-down, or side-to-side sweep of the radar, light, or other beam or device used in making a scan. See sweep.

1. scan, radar -- Time (in seconds) for one complete rotation of a radar antenna.
2. scan, tracking -- Two successive operations of the Automatic Tracking Program.

### scan oriented quality control

A software program which operates once every radar scan and whose major task is to monitor status messages, test messages, and radar data counts from the radar site digitizer.

### scanning

In a video display, the process of analyzing or synthesizing successively, according to a predetermined method, the light values of picture elements constituting a picture area.

1. scanning line -- A continuous narrow strip of a the picture area containing highlights, shadows and halftones, determined by the process of scanning.

### scatter interrupt

A class 2 interrupt which is the highest priority interrupt in the ARTS, usually indicative of a failure condition within the data processing subsystem or a manual recovery.

### scavenging

Searching through residue for the purpose of unauthorized data acquisition.

### schedule/scheduled

A program or listing of events or actions.

1. scheduled interruption -- A term used to indicate that a facility or service interruption was coordinated for a predetermined period of time with prior approval from the facilities manager, assistant facilities manager or other appropriate AT personnel.
2. scheduled corrective -- This is the interruption of a facility/service from the NAS for required corrective maintenance. It is a planned action to correct a facility/service performance deterioration, and applies only when the facility/service is operating within hardware/software operational requirements (tolerance/limits) prior to the scheduled interruption.
3. scheduled routine -- This is the interruption of a facility/service from the NAS for planned maintenance activities and includes activities such as: periodic maintenance per directive; planned hardware modifications, improvements, projects and associated testing; software program updates and associated testing (new version/level, chart update, national patch release, etc.); flight inspection; and planned administrative actions (evaluations, military activities, certification exams, training, etc.).

### scheduling

The process of deriving the order and time at which arrivals are scheduled to arrive at the runway and other control points. Scheduling usually implies the use of a profile path and profile speed over which an aircraft is expected to fly in order that it arrives at specific control points in accordance with a desired touchdown time. Most known systems and studies do not tightly schedule departures. See sequencing.



### scramble

Departure of an aircraft, training for the purpose of participating in an air defense mission.

1. scramble order -- A command and authorization for flight requiring time, if not more than five minutes, to become airborne.

### screening

A process or combination of processes for the purpose of identifying and eliminating defective, abnormal or marginal parts and manufacturing defects.

1. screening test -- A test or combination of tests, intended to remove unsatisfactory items which are likely to exhibit early failure.

### scrubbing

Synonym for sanitizing.

### scud

Small detached masses of stratus fractus clouds below a layer of higher clouds, usually nimbostratus.

### sea breeze

A coastal breeze blowing from sea to land, caused by the temperature difference when the land surface is warmer than the sea surface. Compare land breeze.

### sea fog

A type of advection fog formed when air that has been lying over a warm surface is transported over a colder water surface.

### sea lane

A designated portion of water outlined by visual surface markers for and intended to be used by aircraft designed to operate on water.

### sea level engine

A reciprocating aircraft engine having a rated takeoff power that is producible only at sea level.

### sea level pressure

The atmospheric pressure at mean sea level, either directly measured by stations at sea level or empirically determined from the station pressure and temperature by stations not at sea level. Sea level pressure is used as a common reference for analysis of surface pressure patterns.

### sea smoke

See steam fog.

### search

To scan/look over a display to find something, such as a particular flight plan.

### search and rescue/SAR

(1) Employment of available personnel and facilities in rendering aid to persons and property in distress. (2) A service which seeks missing aircraft and assists those found to be in need of assistance. It is a cooperative effort using the facilities and services of available Federal, state and local agencies. The U.S. Coast Guard is responsible for coordination of search and rescue for the Maritime Region, and the U.S. air Force is responsible for search and rescue for Inland Region. Information pertinent to search and rescue can be passed through any air traffic facility or be transmitted directly to the Rescue Coordination Center by telephone.

1. search and rescue facility -- A facility responsible for maintaining and operating a search and rescue service to render aid to persons and property in distress. It is any SAR unit, station, NET, or other operational activity which can be usefully employed during an SAR mission; e.g., a Civil Air Patrol Wing, or a Coast Guard Station.

### seasonal variation

Changes in attenuation due to ambient temperature changes. The net loss of a circuit is computed at 68° F. If the temperature is higher than this, the loss will increase and the circuit will be "long." If the temperature is lower, the circuit will be "short."

### second in command

A pilot who is designated to be the second in command (co-pilot) of an aircraft during flight time.

### second order message

A transmitted message referencing a previously transmitted flight plan. See first order message.

1. second order transmission -- The TI message is considered a second order message when flight plan information has previously been transferred to the adjacent center on the same flight.

### secondary area

The area within a segment in which ROC is reduced as distance from the prescribed course is increased.

### secondary radar

See radar.

### sector

An FAA sector is a geographic area limited to altitude, assigned to a controller to exercise control and advisory responsibilities. An Air Defense Center Sector is a geographical area under surveillance of a unit of the Air Defense Command. An Air Defense Sector is much larger than an FAA sector. An ARTCC geographic area is of approximately the same size as an ADC Sector. See active sector, inactive sector.

1. sector air space -- One or more contiguous fix posting areas controlled from a single control sector (i.e., the FPAs assigned to a sector). A sector's air space may overlies or underlie air space controlled by another sector or by an approach control facility.
2. sector area -- Synonymous with sector air space.
3. sector list drop interval/SLDI -- A parameter number of minutes after the meter fix time when arrival aircraft will be deleted from the arrival sector list.
4. sector saturation levels -- A predetermined maximum number of aircraft that can be handled within a particular sector. At any given time, this number will vary depending on weather, personnel, etc.

### sector plan

An adapted set of sector/FPA assignments which may be implemented by reference to a unique plan name. The Basic

Sector Plan is the plan in which each FPA is assigned to the sector whose 2-digit identification is the same as the first two digits of the FPA identification.

#### sector visibility

Meteorological visibility within a specified sector of the horizon circle.

#### sectorization

See re-sectorization.

1. sectorization plan -- A statement of which WSEC is paired with each adapted GSEC according to this plan. There are five sectorization plans (normally); peak, normal, light, midnight, alternate midnight. See adapted sectorization plan, current sectorization plan.

#### secure configuration management

The use of procedures appropriate for controlling changes to a system's hardware and software structure for the purpose of ensuring that such changes will not lead to a decreased data security.

#### secure operating system

An operating system that effectively controls hardware and software function in order to provide the level of protection appropriate to the value of the data and resources managed by the operating system.

#### security

The protection afforded information from accidental or intentional, but unauthorized modification, destruction or disclosure. See add-on-security, administrative security, communications security, data security, emanation security, personnel security, physical security, procedural security, teleprocessing security, traffic flow security.

#### security audit

An examination of data security processes and measures for the purpose of evaluating their adequacy and compliance with established policy.

### security control point

An individual or office having primary responsibility for receiving, controlling, disseminating and disposing of classified documents received by an activity.

### security filter

A set of software routines and techniques employed in AIS to prevent automatic forwarding of specified data over unprotected links or to unauthorized persons.

### security incidents

Any incident involving the penetration, user subversion, compromise of classified or sensitive information, unauthorized use access or storage of information which is a violation of the requirements, procedures or directives of Government agencies (e.g. fraudulent use of systems or information, inadvertent disclosure, unauthorized access to a Central Computer Room or computer system from a remote terminal).

### see and avoid

A visual procedure wherein pilots of aircraft flying in visual meteorological conditions/VMC, regardless of type of flight plan, are charged with the responsibility to observe the presence of other aircraft and to maneuver their aircraft as required to avoid the other aircraft. Right of way rules are contained in FAR, Part 91. See Instrument Flight Rules, Visual Flight Rules.

### segment

The basic functional division on an instrument approach procedure. The segment is oriented with respect to the course to be flown. Specific values for determining course alignment, obstruction clearance areas, descent gradients, and obstruction clearance requirements are associated with each segment according to its functional purpose.

1. segment heading -- The azimuth, relative to true north, from one converted fix to the next converted fix along a route.

### segmented airway

An airway that is non-continuous.

### segmented circle

A system of visual indicators designed to provide traffic pattern information at airports without operating control towers. (Refer to AIM)

### select

To single out an item in preference to others, or pick one from several available options or items, such as a flight plan sorting priority scheme.

### select code

That code displayed when the ground interrogator and the airborne transponder are operating on the same mode and code simultaneously.

### selective calling

A form of teletypewriter communications system. One teletypewriter loop may include several machines but, with selective calling, only the machine selected will respond. Control of an individual machine in response to a selective call (CDC) is enabled by a stunt box.

### selective rejection

The process which accepts selected radar data for correlation and display, using adapted radar sort boxes to determine whether the datum is from a preferred or supplemental site.

### selectively managed and controlled items

Items which do not meet the capitalization criteria, but which are individually recorded in the property record solely for management and item control purposes. Examples include: borrowed, leased, or loaned property, special interest items and sensitive items.

### selector channel

A high speed data communication path contained in the I/O control element of the CDC, which is used for the attachment of tape drives, display devices.

### self-test

Tests of the TCAS equipment and displays which are initiated by the flight crew and are used to determine the operational status of the equipment. Self-test differs from performance

monitoring in that it is initiated by the flight crew, may use external stimuli and is not performed continually or automatically.

semidiameter/SD

The value in minutes of arc of the radius of the sun or the moon.

sense

(1) To detect or perceive. (2) A direction that a TCAS resolution advisory may take: either CLIMB or DESCEND.

sensing

In a teletype system, mechanically reading to determine which condition exists for each unit of code.

sensitive application

A computer application which requires a degree of protection because it involves the processing of sensitive data or because of the risk and magnitude of loss or harm which could result from improper operation or deliberate manipulation of the application.

sensitive data/information

Data which requires a degree of protection due to the risk and magnitude of loss or harm which could result from inadvertent or deliberate disclosure, alteration or destruction. The term includes data whose improper use or disclosure could adversely affect the ability of an agency to accomplish its mission, proprietary data, records about individuals requiring protection under the Privacy Act, and data not releasable under the Freedom of Information Act.

1. sensitive compartmented information -- All information and material that requires special controls for restricted handling within compartmented intelligence systems and for which compartmentalizing is established.

sensitive information system

A system that processes sensitive data.

### sensitive items

Selectively managed and controlled items of in-use personal property which are especially susceptible to loss, pilferage or misappropriation.

### sensitivity time control/STC

A radar circuit designed to correct for range attenuation so that echo intensity on the scope is proportional to reflectivity of the target regardless of range. See gain time control.

### sensor

Synonym for interrogator.

### separation

Spacing of aircraft to achieve their safe and orderly movement in flight and while landing and taking off.

1. separation minima -- The minimum longitudinal, lateral, or vertical distances by which aircraft are spaced through the application of air traffic control procedures.

### separation filter

A filter, or more accurately a combination of filters, used to separate one band of frequencies from another. Often used to separate carrier and voice frequencies for transmission over individual paths.

### sequence tracking/SEOTRAC

A form of tracking in which computer generated sequencing vector and speed data are used to aid in the tracking process.

### sequence parameters

A set of central tables utilized by the executive control program to control the sequence of input/output transfers and sub-program operations.

### sequencing

The generic term including both scheduling and spacing of aircraft along a common path. The process of ordering the aircraft in the schedule. Sequencing is normally either first come, first served or by speed class. The term



"sequencing" is sometimes loosely used to include the arrival control process.

#### sequential test

A test of a sequence of samples in which it is decided at each step in the sequence whether to accept or reject the hypothesis, or to take an additional sample and continue the test.

#### serial

A method of communicating digital information in which the data bits are transmitted sequentially over a single line.

#### serial transmission

Information transfer in which the bits composing a character are transmitted sequentially.

#### service

(1) The end product which is delivered to a user (Air Traffic personnel, the aviation public, military, etc.) that results from an appropriate combination of systems, subsystems, equipment and facilities. Examples might include a chain of facilities consisting of an Air Route Surveillance Radar/ARSR, Common Digitizer/CD, Radar Microwave Link Terminals/RMLT, Radar Microwave Link Repeater/RMLR and associated Air Route Traffic Control Center/ARTCC equipment used to provide Air Traffic personnel with en route digitized data. Air Traffic personnel in turn utilize that data to provide separation services to aircraft operating in the NAS. (2) A communications interface.

1. service A -- A teletype network used primarily to collect and disseminate weather reports, forecasts and NOTAM's. There are 15 area circuits (comprising over 450 send-receive stations), 14 supplemental and 10 local receive-only circuits, all operating at 100 wpm. These circuits are interconnected by a transcontinental express teletype circuit which interconnects the Automatic Data Interchange System (ADVIS) centers.
2. service B -- A series of low speed (100 wpm) multi-point teletype communication systems whose primary purpose is to handle flight movement and control messages. These circuits interconnect ARTCC's with selected FAA facilities, BASOPS and airspace carrier operations offices located within the geographic area of each ARTCC, and also connect all ARTCCs within the

U.S. See area B, military B, air carrier B, and center B.

- a. Service B Interchange System/BDIS -- A high speed (1071 wpm) teletype circuit which enables communications between all Area B circuits via 10 BDIS Relay Centers.
3. service C -- A low speed (100 wpm) teletype system used primarily to collect and disseminate domestic synoptic weather information and general service forecasts. Consists of 208 send-receive terminals and 216 receive-only "drops".
4. service circuits -- Those time-shared circuits of the system which achieve a desired grade of service. The failure of one (1) or several will not make the system inoperative but may degrade the service during peak load.
5. service F -- A communications service comprised of dedicated circuits, leased by the FAA.
6. service, full duplex -- A type of channel which is capable of simultaneous and independent transmittal and reception of communications signals.
7. service, half duplex -- A type of communication channel which is capable of transmitting and receiving signals, but is not capable for simultaneous and independent transmission and reception.
8. service, simplex -- A type of communication channel which is capable only of either transmitting or receiving signals. These types of circuits do not exist any longer. If one way communication is specified, the line will be half-duplex.

service volume(s)

1. standard service volumes/SSV -- Ground stations are classified according to their intended use. These stations are available for use within their service volume. Outside the service volume, reliable service may not be available. For standard use, the airspace boundaries are called standard service volumes.
2. expanded service volumes/ESV -- When operational needs require facilities to be used beyond their standard service volumes, the same signal standards/tolerances and ground/flight check certification procedures will

be met. Expanded service volumes (ESVs) will only be authorized when conditions permit.

3. operational service volume/OSV -- The airspace available for operational use includes: (a) The SSV excluding any portion of the SSV which has been restricted, and (b) expanded service volumes (ESVs).

#### service (zero) 0

A low speed (100 wpm) teletype system used primarily to collect and disseminate international synoptic and aviation weather information. The continental U.S. network consists of 25 send-receive terminals and 75 receive-only terminals.

#### service channel

A band of frequencies, on each side of the carrier frequency, produced by modulation.

#### service fault location

The location of the inoperable segment of a chain of facilities and/or equipment causing a service interruption. Three service fault locations are designated as follows:

1. control site -- The control site, such as an ARTCC or an Airport Traffic Control Tower/ATCT, is the controlling point of the service. The control site encompasses all necessary control, decoding, display or other equipment associated with the control point of the particular service, exclusive of link terminals.
2. line/link -- That portion in a chain of facilities which provides the point-to-point media transmission between the control and remote site. Included in this portion are FAA or commercial telephone company/TELCO transmission lines, link terminals and line repeaters.
3. remote site -- A remote site, such as an ASR, remote center air/ground communications facility or ARSR, is the remote end of a service. A remote site encompasses all transmitting, receiving, control, and ancillary equipment associated with the remote end of a particular service, exclusive of link terminals. In the case of flight data entry and printout and inter-facility data services, the terminal facility ARTCC, ATCT and/or TRACON facility is considered the remote site for the ARTCC. For the Remote Tower Radar Display Service/RTRDS and the remote tower alphanumeric display service, and in some cases the terminal radar/secondary radar, the remote site may include the equipment from

the radar site up to the last point of transmission to the satellite tower location, exclusive of link terminals.

### servicing

The performance of any act (other than preventive or corrective maintenance) required to keep an item of equipment in operating condition, such as lubricating, fueling, oiling, cleaning, etc. Servicing does not include the periodic replacement of parts or of any corrective maintenance tasks.

### servicing company

(1) A leasing company. (2) Circuits consisting of landline or radio link segments which interconnect facilities and are managed and maintained by a telephone company. Interstate circuits are governed under Federal Communications Commission/FCC tariffs.

### Servicing Test Center/STC

The telephone company office which customers contact on matters pertaining to service.

### set up

(1) To adjust equipment for proper functioning. (2) In a video display, the ratio between reference black level and reference white level, both measured from blanking level. It usually is expressed in percent.

1. reference black level -- The light level at the point of observation corresponding to the specific maximum excursion of the picture signal in the black direction.
2. reference white level -- The light level at the point of observation corresponding to the maximum excursion of the picture signal in the white direction.

### severe weather avoidance plan/SWAP

An approved plan to minimize the affect of severe weather on traffic flows in impacted terminal and/or ARTCC areas. SWAP is normally implemented to provide the least disruption to the ATC system when flight through portions of the airspace is difficult or impossible due to severe weather.

### severe weather forecast alerts/AWW

Preliminary messages issued in order to alert users that a severe weather watch bulletin/WW is being issued. These messages define areas of possible severe thunderstorms or tornado activity. The messages are unscheduled and issued as required by the National Severe Storm Center.

### sextant

An optical instrument whose prism moves in an arc of 60°, enabling it to measure the altitude of a celestial body up to 120°. The term is commonly applied to all instruments measuring the altitude of a celestial body.

### shading

In a televised display, a brightness gradient in the reproduced picture, not present in the original scene, which is caused by the camera tube.

### shall

"Shall" denotes compulsory or mandatory action that the person being directed is obliged to take. For example; equipment "shall" be adjusted to operate in accordance with directive tolerances. See should, will, and may.

### shall not

"Shall not" means that an action is prohibited.

### shear

See wind shear.

### short

In communications, when the net loss of a circuit is less than the limits allow. This may create "singing."

### short range clearance

A clearance issued to a departing IFR flight which authorizes IFR flight to a specific fix short of the destination while air traffic control facilities are coordinating and obtaining the complete clearance.

### short take off and landing/STOL aircraft

An aircraft which, at some weight within its approved operating weight, is capable of operating from a STOL runway

in compliance with applicable STOL characteristics, airworthiness, operations, noise and pollution standards.

short take off and landing/STOL runway

A runway specifically designated and marked for STOL operations.

short title

An identifying combination of letters and numbers assigned to material for purposes of brevity.

should

"Should" denotes an action that is desirable but not mandatory. For example: equipment "should" be shut down if, in the opinion of the operator, failure is imminent. See shall, will, and may.

show

Unless the context otherwise requires, "show" means to demonstrate or prove to the satisfaction of the Administrator.

shower

Precipitation from cumuliform clouds; characterized by the suddenness of beginning and ending, the rapid change of intensity, and by rapid changes in the appearance of the sky. Showery precipitation may be in the form of rain, ice pellets, or snow.

side effects

Terrain (or building) influences (reflections) on an ILS glide slope or localizer signals.

side lobe

A portion of a radar antenna beam pattern resulting when small amounts of power are unavoidably radiated in undesired directions.

1. side lobe suppression/SLS -- A radar beacon feature which inhibits response to side lobe interrogations.

sideband(s)

The band(s) of frequencies, on each side of the carrier frequency, produced by modulation.

### sidestep maneuver

A visual maneuver accomplished by a pilot at the completion of an instrument approach to permit a straight-in landing on a parallel runway not more than 1,200 feet to either side of the runway to which the instrument approach was conducted.  
(Refer to AIM)

### signal plate

See mosaic.

### signal-to-noise ratio

The ratio of the field intensity of a radio wave to the radio noise field intensity at some point. It may also be considered as the ratio, at any point of a circuit, of signal power to total circuit-noise power.

### single drift correction

A technique used in pressure pattern flying wherein a net drift is determined and the correction applied to the course.

### significant change

To determine the need for conducting or revising a risk analysis, this term is defined as follows:

1. significant physical facility change -- (1) Introducing new construction, remodeling or new activities in building areas contiguous to rooms containing AIS hardware or supporting functions that potentially increases the hazards of accidental or natural disasters. (2) Making any modifications to the physical operating environment of an AIS that removes or relaxes existing physical security controls.
2. significant hardware change -- (1) Adding or replacing any AIS hardware or other supporting equipment that increases the AIS tangible assets of the facility by more than \$500,000 in a single fiscal year. (2) A condition that causes an item of AIS hardware or other supporting equipment necessary for the continued operation of the facility to be irreplaceable if destroyed. Also, the condition is met if replacement is likely to take longer than current contingency planning can tolerate. (3) Any hardware modification, replacement or addition that relaxes or removes controls over existing system access, over operational

or administrative procedures or over input/output media.

3. significant system software change -- (1) Adding, modifying or replacing any system software, utility, data base management system or other similar program or module not part of a routine system maintenance or scheduled vendor relapses that involve over \$50,000 or 1 person-year of effort in a single fiscal year. (2) Adding, modifying or replacing any system software, utility data base management system or other similar program or module that relaxes or removes identification, authentication, system access, procedural or other data security controls. (3) Adding, modifying or replacing any system software, utility, data base management system or other similar program or module that increases the system capabilities of users, programmers or other individuals previously not possessing those capabilities on the AIS system to access, modify or delete.
4. significant application change -- (1) Adding, modifying or replacing any application system software or related program that consumes more than 1 person-year of effort or costs more than \$50,000 in a single fiscal year, other than routine or scheduled maintenance. (2) Adding, modifying or replacing any application system software or related program that relaxes or removes identification, authentication, system access, procedural or other application system controls. (3) Increasing the volume of input, output or distribution by 30 percent or more, or increasing the dollar value of the assets controlled in the application by \$100 million within a single fiscal year.

#### significant exposure

Any exposure of a human being or the environment to any hazard as measured by any scientifically acceptable analytical method.

#### significant meteorological information/SIGMET/WA

A weather advisory issued concerning weather significant to the safety of all aircraft. SIGMET advisories cover severe and extreme turbulence, severe icing and widespread dust or sand storms that reduce visibility to less than 3 miles. See AIRMET.



### SIGMET information (ICAO)

Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en route weather phenomena which may affect the safety of aircraft operations.

### sim flights/simulated flights

Flights which are simulations of real aircraft and are moved through the control area by the computer program in accordance with the performance instructions entered by the operator. The extrapolated positions of the simulated flight are the basis for the generation of simulated radar data.

1. simulated tracks -- Simulated aircraft tracks generated, for training purposes, in the common processor used in the sector suite .

### simplex

A communication circuit which transmits intelligence in only one direction at a time. A "simplexed" circuit is one in which repeat coils are arranged to provide an additional communication path via their center taps and a ground return path. See service, simplex.

### Simplified Direction Facility/SDF

A NAVAID used for non-precision instrument approaches. The final approach course is similar to that of an ILS localizer except that the SDF course may be offset from the runway, generally not more than 3°, and the course may be wider than the localizer, resulting in a lower degree of accuracy. (Refer to AIM)

### simulated flame out/SFO

A practice approach by a jet aircraft (normally military) at idle thrust to a runway. The approach may start at a relatively high altitude over a runway (high key) and may contain on a relatively high and wide downwind leg with a rate of descent and a continuous turn to final. It terminates in a landing or low approach. The purpose of this approach is to simulate a flameout. See flameout.

### simulation

A process of using synthetic information in a system for training, evaluation and testing purposes.

### simulation models

See modeling.

### simultaneous ILS/MLS approaches

An approach system permitting simultaneous ILS/MLS approaches to airports having parallel runways separated by at least 4,300 feet between centerlines. Integral parts of a total system are ILS/MLS, radar, communications, ATC procedures, and appropriate airborne equipment. See parallel runways. (refer to AIM)

### singing

A circuit oscillating because it has too much gain. It can sing at any frequency, but the effect is worse at those frequencies within the useable band.

1. singing point/S.P. -- The threshold at which a circuit goes into oscillation. The singing point is a measure of stability and is a function of return loss. It is measured in dB, and the larger the number the greater the stability.

### single failure point

A single item of hardware, the failure of which would lead directly to the total loss of hardware system performance.

### single direction routes

Preferred IFR routes which are sometimes depicted on high altitude en route charts which are normally flown in one direction only. See preferred IFR route. (Refer to Airport/Facility Directory)

### single frequency approach/SFA

A service provided under a letter of agreement to military single piloted turbojet aircraft which permits use of a single UHF frequency during approach for landing. Pilots will not normally be required to change frequency from the beginning of the approach to touchdown except that pilots conducting an en route descent are required to change frequency when control is transferred from the air route traffic control center to the terminal facility.

### single-piloted aircraft

A military turbojet aircraft possessing one set of flight controls, tandem cockpits, or two sets of flight controls

which are operated by one pilot is considered single piloted by ATC when determining the appropriate air traffic service to be applied. See single frequency approach.

single-sideband-suppressed carrier

Modulation resulting from the partial or complete elimination of the carrier and all components of one sideband from an amplitude modulated wave.

sink rate

The vertical component of the velocity of an aircraft along a flight path.

site

The source of surveillance radar data. Either primary data or both primary and beacon data can be generated from one site.

site/system acceptance

The formal acceptance by the FAA of system or equipment from an installation, construction or turnkey contractor. Site/system acceptance is accomplished within the terms of a contract.

1. site/system acceptance testing -- The testing, checkout and documentation which an installation contractor is required to accomplish and demonstrate to the FAA that systems/equipment installed by the contractor meet contract specifications for installation and operation of hardware and software and, where applicable, integration with other systems. Acceptance testing may be accomplished in phases and will usually include a demonstration that the system or equipment are capable of operating a specified period without failure or error. The agency representative (COR/TOR) participates in the testing, checkout, documentation and demonstration activities as stipulated in the contract.

sky wave(s)

A radio signal reflected one or more times from the ionosphere.

slant range

(1) Measurements of range along the line of sight. (2) The actual straight line distance between an aircraft in flight

and a ground location (radar, DME). This distance is greater than the geographical surface range because of the altitude of the aircraft.

1. slant range correction -- A correction which translates the radar ranges into the system plane, i.e., removes the range error contributed by altitude.
2. slant range error/SRE -- The difference between the distance of an aircraft to a radar or DME station on the surface and the distance from the station to a point directly beneath the aircraft. The error magnitude is a function of aircraft altitude above the station and the distance to the station.

#### slant visibility

For an airborne observer, the distance at which he/she can see and distinguish objects on the ground.

#### slash

A radar beacon reply displayed as a elongated target.

#### slave station

The station of a network which is controlled or triggered by the signal from the master station.

#### sleet

See ice pellets.

#### slew dot

A video symbol (dot) that can be positioned by the trackball control to any point on the face of the Display. The dot provides a means for the controller to define a location on the display when communicating with the Centra Computer Complex. See position marker.

#### slide

A bar or flat piece of metal free to be moved within limits, usually in a back and forth manner which affects the operation of associated components.

#### slope equalizer

A device or circuit used to change the gain and/or attenuation of an amplifier circuit to make the attenuation

of a section of transmission line constant over the frequency band.

slot

An elongated cut; an opening which permits only lengthwise motion of a post or stud extending into it.

slow taxi

To taxi a float plane at low power or low RPM.

small aircraft

An aircraft of 12,500 pounds or less, maximum certificated takeoff weight.

small scale ECM mission

ECM performed by one to six aircraft working as a unit.

small search area

A small circular region centered about the predicted track position. Data falling within this region may be correlated with the track.

smog

A mixture of smoke and fog.

smoke

A restriction to visibility resulting from combustion.

smoothed track velocity

The adjusted track velocity (in the free tracking mode) that is obtained by adding to the previously calculated velocity a fixed position of the Deviation for a specified interval.

smoothing

Procedures that decrease or eliminate rapid fluctuations in data. Used by the computer tracking program in determining the future position of an aircraft.

snow

Precipitation composed of white or translucent ice crystals, chiefly in complex branched hexagonal form.

1. snow flurry - A popular term for snow shower, particularly of a very light and brief nature.
2. snow grain(s) - Precipitation of very small, white opaque grains of ice, similar in structure to snow crystals. The grains are fairly flat or elongated, with diameters generally less than 0.04 inch (1 mm).
3. snow pellet(s) - Precipitation consisting of white, opaque approximately round (sometimes conical) ice particles having a snow like structure, and about 0.08 to 0.2 inch in diameter; crisp and easily crushed. Snow pellets differ from snow grains because they rebound from hard surfaces and often break up.
4. snow shower(s) - See shower.

#### soft copy

A temporary (volatile) printout of a data-handling terminal, for example, on a CRT display.

#### software

All instructions, diagrams and step-by-step routines, exclusive of hardware, required to utilize computer capabilities. Software also consists of all computer programs and related documentation. Card decks, magnetic tapes containing computer program information, and computer-generated listings.

#### software release

An identifiable point in the production of software, supported by formal documentation, in which the supplier formally approves the product(s) for general use and will provide broad user support.

#### software reliability

From a system user or "macroscopic" viewpoint, the probability that the use of the software does not result in failure of the system to perform as expected by more than a specified frequency. From a subsystem developer or "macroscopic" viewpoint, the probability that the software is fault-free.

#### software security

Those computer programs and routines which protect data or information processed by an AIS system and its resources.

### solar energy

Energy derived from the sun directly through the solar heating of air, water or other fluids, by electricity produced from solar photovoltaic or solar thermal processes, or indirectly from the use of wind, bio-mass or small scale water power.

### solar radiation

The total electromagnetic radiation emitted by the sun. See insolation.

### solstice

Those points on the ecliptic where the sun reaches its greatest northern or southern declination. Also the times when these phenomena occur.

1. summer solstice -- That point on the where the sun reaches its greatest declination having the opposite name as the latitude.
2. winter solstice -- That point on the ecliptic where the sun reaches its greatest declination having the opposite name as the latitude.

### sort box

An area around a radar return display. Used to eliminate from correlation consideration all tracks whose positions are outside the sort box limits. This rectangular subdivision of the total area of the system is used to simplify the processing of large amounts of geographically oriented data. See radar sort box.

1. sort box grid -- A projection of identical rectangular boxes called sort boxes projected onto a system plane of the ARTCC area. The boxes will be aligned with the system's axis.

### sound pressure level

An acoustical intensity expressed in dB above a reference level of  $0.0002 \text{ dynes/cm}^2$ .

### sounding

In meteorology, an upper air observation; a radiosonde observation.

### source

An official document containing air navigation information, facilities, rules and services published and disseminated by an aeronautical information authority. For example, an Aeronautical Information Publication/AIP, a Class II NOTAM, a U.S. Airway Docket, etc.

### source information

Data collected and assembled for the purpose of developing adaptation.

### source region

An extensive area of the earth's surface characterized by relatively uniform surface conditions where large masses of air remain long enough to take on characteristic temperature and moisture properties imparted by that surface.

### space

(1) A no-signal pulse on the line. (2) The movement of the type box the width of a character without printing taking place. (3) An impulse, which in a TTY neutral circuit, causes the loop to open; or in a polar circuit, causes the loop current to flow in a direction opposite to that for a mark impulse.

1. space-to-mark transition -- The transition, or switching, from a spacing impulse to a marking impulse in TTY.

### space vehicle/SV

A Global Positioning System (GPS) satellite.

1. SV location data -- Data transmitted by SV (GPS satellite) which contains the SV ephemeris data.
2. SV status -- Operational status of individual SV (GPS satellite) as determined by the SV self monitor, the GPS monitor or the DOD GPS Master Control Station.

### spacing

The separation of aircraft in a series of a predetermined distance or time criteria. See sequencing.

1. spacing bias distortion -- Bias distortion which lengthens the spacing impulse by delaying the space-to-mark transition in TTY.



speak slower

Used in verbal communications as a request to reduce speech rate.

special access program

Any program imposing "need-to-know" or access controls beyond those normally provided for access to Confidential, Secret, or Top secret information. Such a program includes, but is not limited to, special clearances, adjudication or investigation requirements, special designation of officials authorized to determine "need-to-know," or special lists of persons determined to have a "need-to-know."

special emergency

A condition of air piracy or other hostile act by a person(s) aboard an aircraft which threatens the safety of the aircraft or its passengers.

special handling

A term which mean to clear an aircraft according to pilot request as soon as practicable. Given such handling, a controller will not ask the pilot to deviate from his/her planned action except to preclude an emergency situation.

special interest item

An item determined to warrant selective management and control such as hazardous or critical items, or items with special material content.

special maintenance procedure

The prescribed procedures for doing incidental, non-scheduled tasks. This may include repair, adjustments, calibration, alignment and other procedures.

special position identification/SPI

A special pulse used in ATCRBS located 4.35 ms following the last framing pulse.

special use airspace

Airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature and/or wherein limitations may be

imposed upon aircraft operations that are not part of those activities. Special use airspace includes:

1. prohibited areas -- prohibited areas contain airspace of defined dimensions identified by an area on the surface of the earth within which the flight of aircraft is prohibited. Such areas are established for security or other reasons associated with the national welfare. These areas are published in the Federal Register and are depicted on aeronautical charts.
2. restricted area -- restricted areas contain airspace identified by an area on the surface of the earth within which the flight of aircraft, while not wholly prohibited, is subject to restrictions. Activities within these areas must be confined because of their nature or limitations imposed upon aircraft operations that are not part of those activities or both. Restricted areas denote the existence of unusual, often invisible hazards to aircraft such as artillery firing, aerial gunnery, or guided missiles. Penetration of restricted areas without authorization from the using or controlling agency may be extremely hazardous to the aircraft and its occupants. Restricted airspace is depicted on the en route chart appropriate for use at the altitude or flight level being flown. For joint-use restricted areas, the name of the controlling agency is shown on these charts.
3. warning area -- warning areas are airspace which may contain hazards to nonparticipating aircraft in international airspace. Warning areas are established beyond the 3 mile limit. Though the activities conducted within warning areas may be as hazardous as those in restricted areas, warning areas cannot be legally designated as restricted areas because they are over international waters. Penetration of warning areas during periods of activity may be hazardous to the aircraft and its occupants.
4. military operations areas/MOA -- MOAs consist of airspace of defined vertical and lateral limits established for the purpose of separating certain military training activities from IFR traffic. Whenever a MOA is being used, non participating IFR traffic may be cleared through a MOA if IFR separation can be provided by ATC. Otherwise, ATC will reroute or restrict non participating IFR traffic. MOA's are depicted on Sectional, VFR Terminal, Area and Low Altitude En Route Charts. Most training activities necessitate acrobatic or abrupt flight maneuvers. Military pilots conducting flight in Department of

Defense aircraft within a designated and active military operations area are exempt from the provisions of FAR-91 which prohibit acrobatic flight within Federal airways and control zones.

5. alert areas: Alert areas are depicted on aeronautical charts to inform non participating pilots of area that may contain a high volume of pilot training or an unusual type of aerial activity. Pilots of participating aircraft as well as pilots transiting the area are equally responsible for collision avoidance within Alert Areas.
6. controlled firing areas: Controlled firing areas contain activities which, if not conducted in a controlled environment, could be hazardous to nonparticipating aircraft. The distinguishing feature of the controlled firing area, as compared to other special use airspace, is that its activities are suspended immediately when spotter aircraft, radar, or ground lookout positions indicate an aircraft might be approaching the area. There is no need to chart Controlled Firing Areas since they do not cause non participating aircraft to change to alter flight paths.

#### special VFR conditions/special VFR minimum weather conditions

Weather conditions in a control zone which are less than basic VFR weather conditions and which permit flight under Visual Flight Rules. (Refer to FAR Part 91)

1. special VFR operations -- Aircraft operating in accordance with clearances within control zones in weather conditions less than the basic VFR weather minima. Such operations must be requested by the pilot and approved by ATC.

#### specialist

A person authorized to provide air traffic control service. The individual that interacts directly with the sub-systems that comprise the NAS (e.g. air traffic controller, flight service station specialist, traffic management specialist, air traffic supervisor, weather specialist, etc.).

#### specially selected standard part(s)

Replaceable parts readily available from commercial sources, which have been selected on the basis of special treatment, reliability tests and/or high performance validation.

specific absorption rate/SAR

The rate at which RF energy is absorbed in irradiated tissue, expressed in watts per kilogram (W/kg).

specific humidity

The ratio by weight of water vapor in a sample of air to the combined weight of water vapor and dry air. Compare mixing ratio.

specification

(1) A document intended primarily for use in procurement which describes the essential technical requirements for items, materials and services including the procedures by which it will be determined that the requirements will be met. (2) A detailed description of the characteristics of a product and of the criteria which must be used to determine whether the product is in conformity with the description.

speech plus signaling/telegraph

An arrangement of equipment that permits the use of part of a speech band for transmission of signaling or telegraph.

speed

See airspeed, groundspeed.

speed adjustments

An ATC procedure used to request pilots to adjust aircraft speed to a specific value for the purpose of providing desired spacing. Pilots are expected to maintain a speed of plus or minus 10 knots or 0.02 mach number of the specified speed.

speed brakes/dive brakes

Moveable aerodynamic devices on aircraft that reduce airspeed during descent and landing.

speed line

A line of position that intersects the track at an angle great enough to be used as an aid in determining groundspeed.

### speed segments

Portions of the arrival route between transition point and the vertex along the optimum flight path for which speeds and altitudes are specified. There is one set of arrival speed segments adapted from each transition point to each vertex. Each set may contain up to six segments.

### spherics

An abbreviated form of atmospherics, it includes the radio-frequency electromagnetic radiation originating principally in the irregular surges of charge in thunderstorm lighting discharges. Spherics are heard as a background of crackling noise (static) in AM receivers. It is also called atmospheric interference, and is more prevalent and troublesome at lower frequencies.

### splits

See range splitting.

### spoofing

The deliberate inducement of a user or resource to take an incorrect action.

### spot size error

A distortion of a radar return caused by the size of the electron spot in the cathode ray tube.

### spur gear

A gear having teeth parallel to the axis of rotation of the shaft or axle.

### squall

A sudden increase in wind speed by at least 15 knots to a peak of 20 knots or more and lasting for at least one minute. The essential difference between a gust and a squall is the duration of the peak speed.

1. squall line - Any non-frontal line or narrow band of active thunderstorms (with or without squalls).

### squawk

Activate specific modes/codes/functions on the aircraft transponder; e.g. 'Squawk three/alpha, two one zero five, low.' See transponder.

### squitter

- (1) Random triggering of a transponder by extraneous noise.
- (2) The transmission of a specified reply format at a minimum rate without the need to be interrogated.

### SS-1

A two-digit code, selective signaling system. SS-1 is used by the FAA between ARTCC's and RCAG's to exchange telephone circuit pairs. A spare circuit may be switched to replace a defective circuit, thereby reducing the line outage.

### stability

A state of the atmosphere in which the vertical distribution of temperature is such that a parcel will resist displacement from its initial level. See instability.

### standard atmosphere

A hypothetical atmosphere based on climatological averages comprised of numerous physical constraints of which the most important are: a surface temperature of 59°F (15°C) and a surface pressure of 29.92 inches of mercury (1013.2 millibars) at sea level; a lapse rate in the troposphere of 6.5°C per kilometer (approximately 2°C per 1,000 feet); a tropopause of 11 kilometers (approximately 36,000 feet) with a temperature of -56.5°C; and an isothermal lapse rate in the stratosphere to an altitude of 24 kilometers (approximately 80,000 feet).

### Stage A

The first generation of the NAS en route implementation. NAS Stage A contained the automated flight and radar data processing features of the most immediate concerns to air traffic control.

### stage development

Airport development to be accomplished over two or more years where the sponsor assures that any development not funded under an initial grant agreement will be completed with or without Federal funds.

### Stage I/II/III service

See terminal radar program.

### standard

(1) A document which establishes technical limitations and applications for items, material, processes, methods, design and engineering practices. (2) The optimum value (on which the initial and operating tolerances are based) assigned to an essential parameter of a system, subsystem or equipment. This value is usually established by design plans and specifications.

### standard allowance

This term is applicable to two categories of logistic support items; working equipment and test equipment. These are documented by facility type in tabular format, listing each line item by type designation or description and quantities required as officially approved to implement maintenance operations for facilities in the NAS.

### standard atmosphere

The atmosphere as defined in U. S. Standard Atmosphere, 1962 Geopotential altitude tables.

### standard correlation

The process whereby radar data are uniquely identified (correlated) with a given track. It is performed on primary and non-discrete beacon returns, as well as discrete returns which are not correlated in discrete correlation. See correlation.

### standard datum plane

An imaginary surface containing all points having a barometric pressure of 29.92 inches of mercury at a temperature of 15° centigrade. See altitude, density.

### standard instrument approach procedure/SIAP

See instrument approach procedure.

### standard instrument departure/SID

A preplanned coded air traffic control IFR departure routing, pre-printed for pilot use in graphic and textual or textual form only. A departure route identified by a unique name, originating at one or more airports and ending at a specific adapted fix, called an exit fix. A SID may have a transition route adapted with it.

### standard lapse rate

1. temperature -- A temperature decrease of approximately 2° centigrade for each 1,000 feet increase in altitude.
2. A decrease in pressure of approximately 1 inch of mercury for each 1,000 feet.

### standard rate turn

A turn of three degrees per second.

### standard spare part(s)

Replaceable parts readily available from commercial sources (often called parts common).

### standard terminal arrival route/STAR

A preplanned coded air traffic control IFR arrival routing, pre-printed for pilot use graphic and textual or textual form only. An arrival route identified by a unique name, originating at a specific adapted airport.

### standards and tolerances

Values and allowable deviations (tolerances/limits) for system/equipment technical parameters. A tabulation of standards and tolerances is contained in applicable maintenance technical handbooks. The standards and tolerances listed in manufacturer's instruction books may, when authorized, be used on an interim basis until the issuance of the applicable maintenance technical handbook.

### stand by

(1) Means the controller or pilot must pause for a few seconds, usually to attend to other duties of a higher priority. (2) "stand by for clearance." If the delay is lengthy, the caller should reestablish contact.

### standing cloud (standing lenticular altocumulus)

See lenticular cloud.

### standing wave

An wave which remains stationary in a moving fluid. In aviation operations it is most commonly used to describe a lee wave or mountain wave.



### star magnitude

A measure of the relative apparent brightness of a star.

### start

Controller terminology in the task "start track," to begin the display of the track of a target on a situation display.

### start-of-message code/SOM

A teletypewriter code sequence (or byte) signifying the start of a message.

### start-over

An instance of execution of the start-up/start-over subfunction initiated by an element or sub-program malfunction or operator request. The Display system sends messages to the CCC at startover requesting certain steps in the loading of the Display System operational program. If an error occurs during this process, an error message is sent to the CCC indicating a bad load, which will instigate a retry. Startover is performed in one of two modes, resume or re-establish.

1. resume mode -- The capability of starting over without restoring to stored recovery data. It is used to recover from those errors and malfunction types which do not invalidate the data base. Its advantages are the minimization of data recovery time and the positive retention of all input received before the error.
2. re-establish mode -- The mode used for system recovery necessitated by data base invalidity or operator request. This mode is effected by utilization of recovery data to re-create the data base which existed before detection of the startover requirement.

### start-up

An instance of execution of the start-up/start-over subfunction precipitated by the system or subsystem IPL procedure. Start-up is performed in one or two modes.

1. establish mode -- Used for initiating the operational program for system data processing activities, for program testing or normal ATC operations. This mode is also used when a startover is required and recovery data to re-create the system data base cannot be accessed or is unusable. When this happens it is called a cold start.

2. re-establish mode -- Used for initiating the operational program at an instance of previous data processing activity. This mode is effected by utilization of recovery data to re-create the system data base which existed at the desired instance of data processing activity. This is sometimes referred to as a rescue.

state

- (1) One of a sub-set of mutually exclusive descriptors of some aspect of module's operation. See status. (2) An ICAO term referring to a country of origin such as Brazil or the United States.

station

- (1) A Flight Service Station or Weather Reporting Station.  
(2) A broadly used term referring to the end of a communications circuit. (3) A radio navigation aid.

station declination

The alignment variation between the zero degree radial of a VOR and true north, determined at the time the VOR station is calibrated. Sometimes referred to as "slaved variation."

station - direction code

A unique TTY code identifying the transmitting station.

station equipment

A broad term used to denote telephone/communications equipment located at a customer's premises. The equipment may be owned by the telephone company or the customer. If the equipment is owned by the customer, it is referred to as Customer-Provided Equipment/CPE.

station keeping

Capability of an aircraft to maintain a particular position in space relative to other aircraft near and around it. Station keeping helps maintain order in a structured aircraft population, as in military formation or pattern flying, and can do the same in high density landing and take-off conditions at busy civilian airports, or en route in transatlantic air lanes. The station keeping display is either a plan presentation of the relative positions of all aircraft or a flight director display indicating how to fly

in order to maintain proper longitudinal, lateral, and vertical position relative selected reference aircraft. The use of airborne station keepers enables aircraft to maintain safe relative positions and flight direction without visual contact; VFR spacings can be maintained more precisely with proper station keeping equipment than without. Station keeping can also be provided from a control group station.

#### station pressure

The actual atmospheric pressure at the observing station.

#### station select code/SSC

See select code.

#### stationary front

See quasi-stationary front.

#### stationary reservations

Altitude reservations which encompass activities in a fixed area. Stationary reservations may include activities such as special test or weapons systems or equipments, certain U.S. Navy carrier, fleet, and anti-submarine operations, rocket missile and drone operations, and certain aerial refueling or similar operations.

#### statistical record

A record in a system of records maintained for statistical research or reporting purposes only and not used in whole or in part in making any determinations about an identifiable individual or entity.

#### status

A set of descriptors, each chosen from a different sub-set of mutually exclusive descriptors, which simultaneously specify several aspects of a module's operation at any point in time. Status is a vector quantity whose entries are states; one descriptor from each sub-set forms the status of the module. In a more general sense, status can be used to uncommittally refer to one or more states, as in: "'update status monitors'", or to conceptually group one or more states from one or more sub-sets of mutually exclusive descriptors, as in "on-line status".

The following terms are herein defined and also used to illustrate the general use of the word status:

1. on-line -- Modules whose configuration assignments are under the control of the operational executive program; modules in the operational or redundant states.
2. off-line -- Modules whose configuration assignments are not under the control of the operational executive program; modules in the test or inactive states. Such modules usually have their states changed manually.

statute mile

5,280 feet or .867 nautical miles.

steam fog

Fog formed when cold air moves over relatively warm water or wet ground.

stepdown fix

A fix permitting additional descent within a segment of an instrument approach procedure by identifying a point at which a controlling obstacle has been safely overflown.

step taxi

To taxi a float plane at full power or high RPM.

step turn

A maneuver used to put a float plane in a planing configuration prior to entering an active sea lane for takeoff. The step turn maneuver is only used at the pilots request.

stereo message/SP

An input which supplies the aircraft identification and other necessary fields to a specified stereo record, the combination of which produces a valid flight plan.

1. stereo record -- A record in adaptation with a unique adapted name containing flight plan-related data stored with permissible missing fields.
2. stereo route -- A routinely used route of flight established by users and ARTCC's identified by a coded name; e.g., ALPHA 2. These routes minimize flight plan handling and communications.
3. stereo tag -- A unique name that can be entered as the only element of field 10 of a flight plan.

### stereograohic projection

Made by placing a plane tangent to the surface of the earth and projecting this surface onto this plane by line drawn from the point diametrically opposite to the point of tangency through the points on the earth's surface to be projected.

### stereotype route

A pre-recorded route of flight which may be stored in the ARTCC computer.

### stop

A mechanical obstruction to prevent further motion of some component.

### stop altitude squawk

Used by ATC to inform an aircraft to turn off the automatic altitude reporting feature of its transponder. It is used when the verbally reported altitude varies 300 feet or more from the automatic altitude report. See altitude readout, transponder.

### stop and go

A procedure where in an aircraft will land, make a complete stop on the runway, and then commence a takeoff from that point. See option approach.

### stop pulse

A continuous current on the line, lasting any length of time until a start (no current) pulse is sent.

### stop squawk (mode or code)

Used by ATC to tell the pilot to turn specified functions of the aircraft transponder off.

### stop stream/burst/buzzer

Used by ATC to request a pilot to suspend electronic countermeasure activity. See jamming.

### stopover flight plan

A flight plan which permits in a single submission the filing of a sequence of flight plans through interim full stop destinations to a final destination.

### stopway

An area beyond the takeoff runway, no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating the airplane during an aborted takeoff.

### storage

Components or devices in which data can be stored and retrieved by a computer.

### stored program computer

A computer that can alter its own instructions in storage as though they were data and subsequently execute the altered instructions.

### storm detection radar

A weather radar designed to detect hydrometeors of precipitation size; used primarily to detect storms with large drops or hailstones as opposed to clouds and light precipitation of small drop size.

### straight-in-approach (IFR)

An instrument approach wherein final approach is begun without first having executed procedure turn, not necessarily completed with a straight in landing or made to straight in landing minimums.

### straight-in-approach (VFR)

Entry of the traffic pattern by interception of the extended runway centerline without executing any other portion of the traffic pattern. See traffic pattern.

### straight in landing

A landing made on a runway aligned within 30° of the final approach course following completion of an instrument approach.

straight in landing minimums/straight in minimums

See landing minimums.

stratiform

Descriptive of clouds of extensive horizontal development, as contrasted to vertically developed cumuliform clouds; characteristic of stable air and, therefore, composed of small water droplets.

stratocumulus

A low cloud, predominantly stratiform in gray and/or whitish patches or layers, which may or may not merge. The elements are tessellated, rounded, or roll shaped with relatively flat tops.

stratosphere

The atmospheric layer above the tropopause, with an average altitude base of 7 miles and an average top of 22 miles. Characterized by a slight average increase of temperature from base to top, it is very stable having a low moisture content and an absence of clouds.

stratus

A low, gray cloud layer or sheet with a fairly uniform base, which sometimes appears in ragged patches. It seldom produces precipitation but may produce drizzle or snow grains (stratiform cloud).

stratus fractus

See fractus.

streamline

In meteorology, a line whose tangent is the wind direction at any point along the line. A flowline.

stress analysis

The evaluation of stress conditions (electrical, thermal, vibration, shock, humidity, etc.) applied to the design of a system or equipment. On the basis of a stress analysis, failure rates are appropriately adjusted to reflect the deleterious effects of the stresses on the reliability of the parts involved.

### strike force aircraft

All offensive attack and support forces, participating in an exercise.

### strike route

That portion of an exercise route from IP/HHCL to ground target, bomb release line, end of exercise point, as appropriate.

### storage

(1) The term preferred to memory. (2) Pertaining to a device in which data can be stored and from which it can be obtained at a later time. The means of storing data may be chemical, electrical, or mechanical. (3) A device consisting of electronic, electrostatic, electrical, hardware or other elements into which data may be entered, and from which data may be obtained as desired. (4) The storage in any given computer, synonymous with memory.

1. magnetic core -- A storage device in which binary data are represented by the direction of magnetization in each unit of an array of magnetic material, usually in the shape of toroidal rings.
2. magnetic disk -- A storage device or system consisting of magnetically coated disks, on the surface of which information is stored in the form of magnetic spots arranged in a manner to represent binary data. These data are arranged in circular tracks around the disks and are accessible to reading and writing heads on an arm which can be moved mechanically to the desired disk and then to the desired track on that disk. Data from a given track are read or written sequentially as the disk rotates.
3. magnetic drum -- The storage of data on the surface of magnetic drums.
4. magnetic tape -- A storage device in which data are stored in the form of magnetic spots on metal or coated plastic tape. Binary data are stored as small magnetized spots arranged in column form across the width of the tape. A read-write head is usually associated with each row of magnetized spots so that one column can be read or written at a time as the tape traverses the head.



5. main -- Usually the fastest storage device of a computer and the one from which instructions are executed.
6. nonvolatile -- A storage medium which retains information in the absence of power and which may be made available upon restoration of power; e.g., magnetic tapes, cores, drums, and discs. Contrasted with storage, volatile.
7. volatile -- A storage medium in which information cannot be retained without continuous power dissipation. Contrasted with storage, nonvolatile.

#### stored fix times/SFT

In the NAS En Route System it is item information associated with stored fixes in route tables. These times include:

1. computed times of arrival/CTA -- An arrival time at a given fix computed by the fix time determination process. It is stored as a clock time.
2. computed delay intervals -- A time interval stored for a given fix to indicate a delay at that fix.
3. relative times -- Time increments computed for route segments on the basis of the fix locations and filed (wind corrected) speed when no actual or estimated times are entered for the flight plan. The first converted fix has a stored zero time; the appropriate time increments relative to the first converted fix are stored for subsequent fixes.

#### stored flight plans

Same as bulk-store flight plans.

#### strip coordination indicator

The identifier of the adjacent center or approach control facility which has received or should receive flight plan information.

#### strobe

An area in which electronic jamming has affected target detection.

1. strobe message -- A message generated by a CD or TCD indicating the azimuthal center of an area in which electronic jamming has affected target detection.

### stud

A machine screw or bolt which fits into threads in some component. A nut is not used. Studs frequently have an unthreaded, smooth area between the bottom of the head and the threads.

### stunt box

The function and selector mechanism of a teletypewriter set. It actuates the receiver portion of the set when matching selective calling codes are received. It also suppresses locally non-printing functions such as figures/letters shift, line feed, carriage return and the like. Control characters can be sent to it over the communications channel.

### sub-assembly

(1) A part of an assembly; a number of electrical components. (2) Two or more parts which form a portion of an assembly, or form a unit replaceable as a whole, but having a part or parts which are replaceable as individuals.

### subpoint

That point on the earths surface directly beneath an object or celestial body.

### subjugate FPA

A FPA which is assigned to a primary FPA.

### sublimation

See change of state.

### sub-list

A departure, inbound, or hold list divided by its appropriate fix.

### sub-module

A common grouping of logic within a module.

### subpoint

That point on the earths surface directly beneath an object or celestial body.

#### sub-program

A predefined sequence of computer instructions which the computer uses to perform one or more program tasks.

#### subrefraction

See refraction.

#### sub-scan

One operation of the automatic tracking program.

#### subsidence

A descending motion of air in the atmosphere over a rather broad area; usually associated with divergence.

#### substitute airways

New or revised en route segments as identified by Airway/route number.

#### substitute route

A route assigned to pilots when any part of an airway or route is unusable because of NAVAID status. These routes consist of: substitute routes which are shown on U.S. Government charts; routes defined by ATC as specific NAVAID radials or courses; or routes defined by ATC as direct to or between NAVAIDS.

#### sub-system

(1) A major sub-division of a system that performs a specified function, which is a portion of, or contributes to, the overall system output or product, or aids in the overall operation of a system. (2) An essential, functional part of a system which supports a data processing operation.

#### successful transmission

Reproduction by a remote or local device of transmitted output without detectable error.

#### suggest

To offer for consideration another course of action, when a request is not feasible, such as clearance alternatives to a clearance request.

### summation principle

The principle states that the cover assigned to a layer is equal to the summation of the sky cover of the lowest layer plus the additional coverage at all successively higher layers up to and including the layer in question. Thus, no layer can be assigned a sky cover less than a lower layer, and no sky cover can be greater than 1.0 (10/10).

### sun line

A line of position obtained by computation based on observation of the altitude of the sun for a specific time.

### sunset and sunrise

The mean solar times of sunset and sunrise as published in the Nautical Almanac, converted to local standard time for the locality concerned. Within Alaska the end of evening civil twilight and the beginning of morning civil twilight, as defined for each locality.

### super high frequency/SHF

The frequency band between 3 and 30 gigahertz (GHz). The elevation and azimuth stations of the microwave landing system operate from 5031 MHz to 5091 MHz in this spectrum.

### super-adiabatic lapse rate

A lapse rate greater than the dry-adiabatic lapse rate. See absolute instability.

### super-cooled water

Liquid water at temperatures colder than freezing.

### super-refraction

See refraction.

### supervisor state

Synonym for executive state.

### supervisory

Having authority to effect dynamic change to the operational nature of the NAS system.

### supplemental B

This system connects overseas relay stations at New York, Miami and San Francisco with certain other FAA facilities and Regional Offices in the United States. Supplemental B circuits are also being connected to BDIS to provide read-only service to certain area B drops at which traffic is unusually heavy.

### supplementary coverage

Radar having overlap coverage over a particular area, but not classified as preferred coverage.

### supplementary site

A radar site whose primary/beacon radar data is processed only in the absence of data from the preferred site for returns from a specified geographic region.

### supplier, aeronautical information

An agency, public or private, other than a publisher of government source documents, who compiles official document information into charts or electronic formats for cockpit use.

### support equipment

Items that are necessary for the operation and/or maintenance of the system but are not physically part of the system.

### suppress

To curtail or inhibit the display of an item, for a parameter time such as a full data block after a point out.

### surface inversion

As inversion with its base at the surface , often caused by cooling of the air near the surface as a result of terrestrial radiation, especially at night.

### surface observation

Report of current surface weather at an observation point at an airport. May be made up of manually observed and entered weather, automatically sensed weather, or a combination of both. This information is contained in a surface aviation weather report/SA.

## surface visibility

Visibility observed from eye-level above the ground.

## surveillance

(1) The service through which a sensor(s) external to an airborne platform determines the position of the platform, either using navigation or airborne compatible equipment (e.g. ATCRBS, Mode S) position information from the aircraft (dependent surveillance) or without the use of position information from the aircraft or airborne compatible equipment (independent surveillance). (2) A system which detects and reports the location of aircraft and/or objects. For air traffic control purposes surveillance systems are electronic in nature and exclude visual independent or dependent systems.

1. full service surveillance -- Required within a given airspace, without prior arrangements, to continuously satisfy the most stringent accuracy requirements for the surveillance of properly equipped users of the airspace.
2. limited service surveillance -- Required within a given airspace, which is continuous with an accuracy less than that of full service; or which is intermittently available at the same accuracy as full service.

## surveillance (terms):

1. azimuth change pulses/ACP -- A series of pulses used to measure the rotation of a radar antenna with respect to a particular reference point. Normally, there are 4,096 pulses per revolution of the antenna.
2. cooperative aircraft -- An aircraft detected by a reply from a transponder (on board the aircraft) to an interrogation from a beacon (secondary) radar.
3. down link -- Aircraft-to-ground digital data link.
4. non-cooperative aircraft -- An aircraft detected by reflected RF energy from a primary radar.
5. nose of the beam -- The point of maximum power in the radar antenna beam. This occurs at the intersection of the principle azimuth plane with the principle elevation plane.

6. principle azimuth plane -- The principal azimuth plane is a plane which includes the line of maximum radiation from the antenna and an intersecting horizontal line which is normal to the line of maximum radiation. This definition assumes the antenna to be in the normal operating position.
7. principal elevation plane -- The principal elevation plane is a vertical plane passing through the center of the reflector and including the line of maximum radiation from the antenna in its normal operating position.
8. probability of detection -- The probability that the signal will be detected by exceeding a predetermined threshold level.
9. pulse repetition frequency/PRF -- The number of radar pulses transmitted per second. This determines the maximum unambiguous range of the radar.
10. radar cross section/RCS -- A quantitative measure of the ratio of power density in vector signal scattered in the direction of the receiver to the power density of the radar wave incident on the target.
11. radar merge -- The correlation of primary and beacon target reports from the same target.
12. resolution -- The ability to separate or differentiate two radar targets.
13. response time -- The time interval from receipt of a target signal at the radar antenna until the time the target position and data are displayed at a specialist's position.
14. round reliability -- The probability of success that a given interrogation (transmission) will elicit (obtain) a response from a transponder (target). The probability is less than unity due to antenna shading, transponder lockout from over interrogations, aircraft maneuvers, dead-time because of another interrogation, etc.
15. scan -- As currently used in the NAS, a scan is one 360° rotation of a radar antenna.
16. scan-to-track correlation -- The correlation of real-time surveillance data with stored positional data on the same target.

17. signal/noise/S/N -- A ratio of peak signal to average noise power, expressed in decibels (dB).
18. Swerling case I -- A particular distribution of radar cross sections (RCS) of a target, of importance in predicting detectability.
19. up link -- Ground-to-aircraft digital data link.

#### surveillance approach

An instrument approach wherein the air traffic controller issues instructions, for pilot compliance, based on aircraft position in relation to the final approach course (azimuth), and the distance (range) from the end of the runway as displayed on the controller's radar scope. The controller provides recommended altitudes on final approach if requested by the pilot. (Refer to AIM)

#### survivable (aircraft) accident

Any accident in which the cabin is found relatively intact, and if occupied by adequately restrained occupants, would not result in fatal injuries.

#### survival radio equipment

A self-buoyant, water resistant, portable emergency radio signaling device which operates from its own power source on 121.5 and/or 243 MHz, preferably on both emergency frequencies, transmitting a distinctive downward swept audio tone for homing purposes, which may or may not have voice capability, and which is capable of operation by unskilled persons. This type equipment is agreed upon internationally for extended over water operations and is presently required for air carriers engaged in extended over water operations.

#### suspend

To stop the display of an item for an indefinite period, until recalled, such as in suspended track.

#### suspension statistics

The average number of program elements that were suspended during the "run" and the average time per suspension.

#### suspension time

The total amount of time that a sub-program spends waiting for requested resources to become available; or for an I/O operation to be completed.



### swap

See track swap.

### sweep

(1) One complete cycle of a radar system designed to cover or survey a certain area or volume of space, where the scan is accomplished by electronic means, rather than by mechanical motion of an antenna system, as in scanning radar. See scan, interlace. (2) The luminous line produced on the screen of a cathode ray tube by deflection of the electron beam. Also called the time base line. See trace.

1. sweep delay -- The electronic delay of the start of the sweep used to select a particular segment of the total range.

### switch

To change a given system condition to another available condition, as when switching communications to a backup frequency.

### sync code

TTY code which immediately follows each select code and serves to synchronize the receiving equipment with the text which follows. This code prevents the next impulse from garbling.

### synchronization

The maintenance of one operation in step with another.

### synchronous garble

Aircraft operating within approximately 1.65 n.m. slant range of each other and who are within the azimuth beam width of the interrogator can cause garble. During a garble situation, the individual pulses in the reply pulse trains from the two aircraft overlap, making it difficult (if not impossible) to determine which pulses belong in which code train.

### synchronous system

A system in which the transmitting and receiving modems are operating at essentially the same frequency. Their synchronism is maintained by phase correction or pattern detection circuitry.

### synoptic chart

A chart, such as a weather map, which depicts the distribution of meteorological conditions over an area at a given time.

### system

(1) Equipment, hardware, and/or software, which fulfills a performance requirement from design through operation. (2) An integrated combination of complete operating sub-systems, equipment, assemblies, sub-assemblies, components, parts or accessories interconnected, in which their independent technical functions are combined to produce a particular operating entity or perform a specific operational function. (3) An assembly of elements used to fulfill an application requirement. See cipher system, code system, concealment system, cryptographic system, lock-and-key protection system, protected wireline distribution system, secure operating system.

1. system component/element -- A major operating element, active or passive, which would affect the overall performance or characteristics of the system if removed or maladjusted.
2. complex system -- A system which requires the highest technical skills and knowledge for analyzing, testing, diagnosing and correcting defects or ensuring continuous and reliable operation. An example of a complex system is an air route surveillance radar.

### system coordinates

Refers to the two-dimensional (X, Y) coordinate system for a NAS En Route ARTCC. The system X, Y cartesian axis is located at the lower left hand corner of the plane that is tangent to the earth's surface at the origin of the stereographic axis. The positive Y axis has the direction of true north at the point of tangency.

### system effectiveness

The probability that a system can successfully meet its specified operational requirements within a given period of time when operated under specified conditions.

### system error

Error value as a function of the error values associated with the ground and airborne components.

### system integrity

The state that exists when there is complete assurance that under all conditions an computer system is based on the logical correctness and reliability of the operating system, the logical completeness of the hardware and software that implements the protection mechanisms, and data integrity.

1. system integrity procedures -- Procedures established for assuring that the hardware, software and data in an AIS maintain their state of original integrity and are not tampered with by program changes.

### system inventory directory

A listing of all systems used at a facility or DPI to include software systems and hardware systems.

### system life cycle cost

The total cost of a time-sharing application over its anticipated life span. Elements include the cost of design, development, operation, and maintenance as well as equipment and supply costs calculated in terms of present value.

### Systems Maintenance Monitor Console/SMMC

The Systems Maintenance Monitor Console is provided as part of NAS Stage A to support the centralized maintenance and monitoring role of the Systems Maintenance Engineering/SME and his assistant (ASME). This console provides status/performance monitoring and failure isolation data to the SME. In addition to the status and error indicators, the console includes two CRT displays, a CCC I/O typewriter, and two positions of appropriate communications equipment.

### system manager

The person responsible for the collection, use, maintenance and dissemination of information pertaining to a system of records. A system manager does not have physical custody of records; he or she must, however, be in a position to exercise effective control over a system of records.

### system of records

A group of any records under the control of an agency/organization from which information is retrieved by some identifying number, symbol, name or other identifier.

### system reconfiguration command

A manually executed command from the en route MPS that results in a reconfiguration of processor elements located in the computer center.

### system shakedown

The critical period of testing which is accomplished after the FAA takes full responsibility for a system and software from a contractor. System shakedown begins after completion of the site/system acceptance testing by a contractor and ends when JAI activities begin. Synonymous with operational shakedown.

### system status indicator

Indicator lights are provided at each radar controller's console to indicate when certain system elements have failed.

1. system status data -- Data generated by the common processor that indicates the status of various sub-systems in the NAS, particularly equipment in the ACF.

### system strategic navigation/SN

Military activity accomplished by navigating along a preplanned route using internal aircraft systems to maintain a desired track. This activity normally requires a lateral route width of 10 NM and altitude range of 1,000 feet to 6,000 feet AGL with some rout segments that permit terrain following.

### system testing

A generic term denoting the testing activities that are intended to further verify functional compatibilities of the hardware and software components after they have integrated into a sub-program. Two such test activities under this heading are program shakedown, testing and operational shakedown.

### systems engineer/SE

The authorized representative of the Airway Facilities Sector Chief concerning systems/subsystems located at an ARTCC facility.

### table

An organized collection of data stored in a form suitable for ready reference.

### tabular data

Data presented in list displays and on a computer readout device.

### TACSCAN

A helicopter version of the AILS aircraft landing system; a microwave scanning beam, provides both lateral and vertical guidance as well as range (DME). Provides accurate indication of aircraft elevation and azimuth angles relative to the touchdown point.

### Tactical Air Navigation/TACAN

A system of navigation in which a single UHF transmitter send out signals that actuate airborne equipment and provides range and bearing indications with respect to the transmitter location when interrogated by another transmitter on the aircraft. Each TACAN station broadcasts a location-identifying Morse code signal at regular intervals.

1. TACAN-only aircraft -- An aircraft possessing TACAN but no VOR navigational system capability.

### tactical phase

That portion of a mission which includes the positioning of aircraft and execution of an actual or practice flight against hostile aircraft or targets.

### tailoring

The process of removing route elements from the route of flight when those route elements are, or will be, no longer significant to the route field or a flight progress strip because they will have been expired at the fix posting.

### takeoff power

(1) With respect to reciprocating engines, means the brake horsepower that is developed under standard sea level conditions, and under the maximum conditions of crankshaft rotational speed and engine manifold pressure approved for the normal takeoff and limited in continuous use to the period of time shown in the approved engine specification.

(2) With respect to turbine engines, means the brake horsepower that is developed under static conditions at a specified altitude and atmospheric temperature, and under the maximum conditions of rotor-shaft rotational speed and gas temperature appropriate for the normal takeoff, and limited in continuous use to the period of time shown in the appropriate engine specification.

takeoff threshold

The beginning of that portion of a runway usable for takeoff.

takeoff thrust

With respect to turbine engines, means the jet thrust that is developed under static conditions at a specific altitude and atmospheric temperature under the maximum conditions of rotor-shaft rotational speed and gas temperature approved for the normal takeoff, and limited in continuous use to the period of time shown in the approved engine specification.

TALAR

A microwave instrument approach system configured in one box, provides both lateral and vertical guidance with limited coverage. No distance information is provided.

talker volume

A universe of talker volumes, as measured at the transmit terminals of the telephone end instrument, will be log-normal with a mean of approximately -10VU into a 600 ohm load, with a standard deviation of approximately 5dB. To convert volume of an analog signal, from volume units (VU) to dBm, 3.9dB must be subtracted from the volume reading (i.e., 0VU = -3dBm).

time navigation/TNAV

A function of RNAV equipment that provides the capability to arrive/depart at a waypoint at a specified time. When added to a 3D system TNAV is called 4D.

tangent point/TP

The point from which a line perpendicular to a RNAV route centerline passes through a specified VOR/DME.

1. tangent point distance/TPD -- The distance from a VOR/DME to a tangent point.

### tanker orbit point

A geographical location along the planned refueling track where the tanker may hold prior to effecting rendezvous with the receiver aircraft,

### tape

A specially prepared paper strip (usually 7/16 inch wide) which may be perforated with coded representations of various characters. It is used in a transmitter distributor to transmit messages.

### tape control unit

A CCC element which connects the magnetic tape units to the I/O Control Element.

### tape drive

See transport, tape.

### target

(1) An aircraft within the surveillance range of TCAS. (2) The indication shown on a radar display resulting from a primary radar return or a radar beacon reply. See radar, radar contact.

1. target symbol -- A computer generated indication shown on a display resulting from a primary return or a radar beacon reply.

### target (ICAO)

(1) Generally, any discrete object which reflects or retransmits energy back to the radar equipment. (2) Specifically, an object of radar search or surveillance.

### target, camera tubes

A structure employing a storage surface which is scanned by an electron beam to generate a signal output current corresponding to a charge density pattern stored thereon. The structure may include the storage surface which is scanned by an electron beam, the backplate and the intervening dielectric.

1. target capacitance -- The capacitance between the scanned area of the target and the backplate.

### target history

A display of stored past and present positions of an aircraft target.

### target position symbol(s)

Symbols presented on a plan view display representing the actual aircraft position and indicating the target status.

### target timing wind

A wind determined from a series of ranges and bearings on the same target taken within a relatively short time period.

### taxi

The movement of an aircraft under its own power on the surface of an airport (FAR Part 135.100 - note). It also describes the surface movement of helicopters equipped with wheels. (Refer to AIM)

### taxi into position and hold

Used by ATC to inform a pilot to taxi onto the departure runway in takeoff position and hold. It is not authorization for takeoff. It is used when takeoff clearance cannot immediately be issued because of traffic or other reasons. See hold, cleared for takeoff.

### taxi patterns

Patterns established to illustrate the desired flow of ground traffic for the different runways or airport areas available for use.

### technical acknowledgment

Acknowledgment by the recipient that a message was received without error, with no inference of the recipient's intended reaction to that message.

### technical performance record(s)

A series of forms providing technical data showing how a system/equipment performs over a period of time. The system/equipment parameters measured during periodic maintenance activities usually are included on this record.

1. technical reference data record -- Records of facility/equipment reference parameter data at the time of commissioning. The data is required for



accomplishing maintenance or engineering analysis of equipment/system performance and for conducting evaluations.

#### technological attack

An attack which can be penetrated by circumventing or nullifying hardware and software access control mechanisms, other than by subverting system personnel or other users.

#### telecommunications

Any transmission, emission or reception of signs, signals, writing, images, sound or other information by wire, radio, visual or any electromagnetic system.

#### telegraph

Originally a term for Morse code communication, it represents any direct-current signaling with closed-circuit (current) and open-circuit (no-current) conditions representing binary mark and space elements.

#### telephone information briefing service

A continuous recording of meteorological and/or aeronautical information (Refer to AIM)

#### telephone position circuit

All circuitry required to permit the telephone instrument or headset to access all voice transmission paths terminating at the position.

#### teleprocessing

Pertaining to an information transmission system that combines telecommunications, AIS and man-machine interface equipment for the purpose of interacting and functioning as an integrated whole.

1. teleprocessing security -- The protection that results from all measures designed to prevent deliberate, inadvertent or unauthorized disclosure, acquisition, manipulation or modification of information in a teleprocessing system.

#### teletypewriter service

1. service A -- A transcontinental express circuit (857 wpm) which interconnects the ADIS Automatic Data Interchange System) centers. There are over 450 send-

receive stations on 15-100 wpm supplemental circuits 8021 through 8035. There are 14-100 wpm supplemental circuits 8036 through 8049. There are local receive only circuits (70100 wpm) between ADIS Centers, U. S. Weather Bureau Flight Advisory Weather Service (FAWS) offices, other local meteorological offices, military installations, etc...

2. service B

- a. area B - A low speed (100 wpm) multi-point teletypewriter communication system, interconnecting selected FAA facilities located within the geographic area of an ARTCC.
- b. military B - A low speed (100 wpm) multi-point teletypewriter communication system, interconnecting an ARTCC with selected military base operations offices (BASOPS) located within the geographic area of the ARTCC.
- c. air carrier B - A low speed (100 wpm) multi-point teletypewriter communication system, interconnecting an ARTCC with air carrier operations offices located within the geographic area of the ARTCC.
- d. center B - Consists of two circuits (Eastern and Western) connecting all ARTCCs within the U.S. Traffic can be relayed between the Eastern and Western circuits by means of automatic equipment in Kansas City. This service is used primarily for handling emergency messages. The data transfer rate over these circuits is at 100 wpm.
- e. service C -- Contains 208 send-receive terminals, 216 receive only "drops", each 6-100 wpm circuits, 30 through 35.
- f. service 0 -- Contains 25 send-receive terminals, 75 receive only terminals, each 6-100 wpm circuits, 8273 through 8280 (8277, 8278 not used). This is what is in service in the continental U.S. only. The overseas circuits and terminals are not included.

telpak

Bulk service by the telephone company to a specific area at reduced rates.

### temperature

In general, the degree of hotness or coldness as measured on some definite temperature scale by means of any of various types of thermometers.

1. temperature inversion - See inversion.

### Tempest

A short name for the study or investigation of compromising emanations (e.g., in crypto-systems). See COMSEC.

### temporary file

A computer file that exists only for the duration of process execution. Temporary files, for example, do not include those files created by an operating system or files created during a sort process.

### temporary modification

A non-permanently installed modification. The term, as used informally, is usually intended to apply to either a "test modification" or an "emergency modification," but may also apply to a "training modification."

### tension

The force exerted by a spring or other elastic medium.

### tentative calculated landing Time/TCLT

A projected time calculated for adapted vertex for each arrival aircraft base on runway configuration, airport acceptance rate, airport arrival delay period, and other metered arrival aircraft. This time is either VTA of the aircraft or the TCLT/ACLT of the previous aircraft plus the AAI, whichever is later. This time will be updated in response to an aircraft's progress and its current relationship to other arrivals.

### tentative flight plan storage

Storage allocated, on a temporary basis, to minimal flight plan information on a flight for which there is no filed flight plan in storage.

### tentative scheduling

The process of deciding a temporary schedule for the purpose of metering the flow through the transition area. See transition control.

### terminal

(1) The end of a wire or winding or a contact, whether a solder lug or a screw connection, to which connections are made to some external circuit. (2) That area within the boundaries of an airport which is directly related to the servicing and movement of passengers and baggage in air commerce.

1. (on airport) terminal area -- That area used or intended to be used for such facilities as terminal and cargo buildings, gates, hangars, shops and other service buildings, automobile parking, airport motels, restaurants, garages, and other service facilities used in connection with the airport (as well as entrance and service roads within the airport boundaries).
2. non-revenue producing public areas -- Baggage claim delivery areas, automated baggage handling equipment, corridors, connecting boarding areas, vehicles for the movement of passengers between terminal buildings and/or aircraft, central waiting rooms, rest rooms, holding areas, foyers and entryway.

### terminal area

(1) An area that may consist of one or more terminals connected to a computer either by use of a modem or hard wire. If microcomputers are used for terminals, when the microcomputer is used as a stand alone device it is considered a data processing activity. (2) Airspace and surface area, including airports, within a predesignated boundary and up to a predesignated altitude above the surface. See tube.

1. terminal area facility -- A facility (RAPCON, RATCC, or tower) providing air traffic control service for arriving and departing IFR aircraft and, on occasion, tower en route control service.

### terminal area, NAS

See ARTS.

### Terminal Control Area/TCA

See controlled airspace.

### terminal common digitizer/TCD

The terminal radar form of a common digitizer/CD.

### terminal identification

The means used to establish the unique identification of a terminal by an AIS system.

### Terminal Radar Approach Control/TRACON

An air traffic control facility using radar and air ground communications to provide approach control services to aircraft arriving, departing or transiting the airspace controlled by the facility. Services may be provided to both civil and military airports. An FAA TRACON is similar to a USAF RAPCON, USN RATCF or U.S. Army ARAC.

### terminal radar program

A national program instituted to extend the terminal radar services provided IFR aircraft to VFR aircraft. Pilot participation in the program is urged but is not mandatory. The program is divided into two parts and referred to as Stage II and Stage III. The Stage service provided at a particular location is contained in the Airport/Facility Directory.

1. Stage I -- Originally comprised two basic radar services (traffic advisories and limited vectoring to VFR aircraft). These services are provided by all commissioned terminal radar facilities, but the term "Stage I" has been deleted from use.
2. Stage II radar advisory and sequencing for VFR aircraft -- Provides, in addition to the basic radar services, vectoring and sequencing on a full time basis to arriving VFR aircraft. The purpose is to adjust the flow of arriving IFR and VFR aircraft into the traffic pattern in a safe and orderly manner and to provide traffic advisories to departing VFR aircraft.
3. Stage III radar sequencing and separation service for VFR aircraft -- Provides, in addition to the basic radar services and Stage II, separation between all participating VFR aircraft. The purpose is to provide separation between all participating VFR aircraft and all IFR aircraft operating within the airspace defined

as a Terminal Radar Service Area/TRSA or Terminal Control Area/TCA.

Terminal Radar Service Area/TRSA

Airspace surrounding designated airports wherein ATC provides radar vectoring, sequencing and separation on a full time basis for all IFR and participating VFR aircraft. Service provided in a TRSA is called Stage III service. Pilot participation is urged but is not mandatory. See controlled VFR, terminal radar program. (Refer to AIM, Airport/Facility Directory)

terminal system NAS

See ARTS.

Terminal Very High Frequency Omnidirectional Range Station/T-VOR

A very high frequency terminal omnirange station located on or near an airport and used as an approach aid. See navigation aid.

terminate

A controller term used with pilots, comparable to "cancel," it indicates an activity is being brought to an end, as in terminating radar service to an aircraft.

terminating equipment

The handset, loudspeaker, key equipment or teleprinter which is the outlet for communication services.

terminating set

Used at the terminals of an equivalent four wire circuit for converting to two wire operation. The transformer arrangement is similar to a hybrid coil. The set is sometimes referred to as a four wire term set or term set.

terrain

The earths surface.

1. terrain angle -- The difference between the slope of the terrain and the horizon.

terrain following/TF

The flight of a military aircraft maintaining a constant AGL altitude above the terrain or the highest obstruction. The

altitude of the aircraft will constantly change with the varying terrain and or obstructions.

#### terrestrial radiation

The total infrared radiation emitted by the Earth and it's atmosphere.

#### test modification

An experimental modification, installed in the most limited scale practical (e.g., normally on a single piece of equipment; a single channel; a single site; a single chain of sites, as in an RML system), for the development and/or evaluation of a proposed modification.

#### test set

A 1004 Hz sinusoidal signal used in most voice-band communications circuits for testing, level setting, and equipment adjustment. (note: the FAA test tone is 1000 Hz).

#### testing

See categories, testing.

#### tetrahedron

A device normally located on uncontrolled airports and used as a landing direction indicator. The small end of a tetrahedron points in the direction of landing. At controlled airports, the tetrahedron, if installed, is disregarded because tower instructions supersede the indicator. See segmented circle. (Refer to AIM)

#### that is correct

The understanding you have is right.

#### theodolite

An optical instrument which, in meteorology, is used principally to observe the motion of a pilot balloon.

#### thermal cutout

A thermal (heat) operated switch which opens an electrical circuit when excessive current flows through the switch and/or when the equipment exceeds safe operating temperature. See klixon.

### thermal design

All the aspects of the system design which affect the temperature of a piece of equipment.

### thermal environment

The environmental factors which affects the temperature of equipment.

### thermal evaluation

Evaluation of the adequacy, from a thermal standpoint, of the design of hardware.

### thermal management

The process, during a military equipment development program, for ensuring that the equipment will be adequate from a thermal standpoint.

### thermal program

The program for implementing thermal management during all the phases of a military electronic program.

### thermally sensitive part

A part whose failure rate is sensitive to temperature and whose failure would have significant impact on the mission.

### thermograph

A continuous recording thermometer.

### thermometer

An instrument for measuring temperature.

### threat

(1) A target that has satisfied the TCAS threat detection logic and thus requires a resolution advisory. (2) The source of an adverse event that can cause a loss. Threats are categorized into natural hazards, accidents and intentional acts.

### threat monitoring

The analysis, assessment and review of audit trails and other data collected for the purpose of searching out system



events which may constitute violations or precipitate incidents involving data privacy matters.

this fix

The posted fix for which a particular en route strip is printed.

threshold

The beginning of that portion of the runway usable for landing.

Threshold Control Unit/TCU

A military unit for detecting and locating sources of electronic jamming.

threshold crossing height/TCH

The theoretical height above the runway threshold at which the aircraft's glideslope antenna would be if the aircraft maintains the trajectory established by the mean ILS glideslope or MLS glidepath.

threshold lights

See airport lighting.

throughput

A measure of the time required to process a specified amount of data through all or some specified portion of a data processing system. A response time to obtain a specified output resulting from specified inputs.

thunderstorm

In general, a local storm invariably produced by a cumulonimbus cloud, and always accompanied by lightning and thunder.

tiering

Refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basin wide program statements or ultimately site specific statements) incorporating by reference the general discussion and concentrating solely on the issues specific to the statement subsequently prepared.

## time

1. apparent time -- Time measured with reference to the true sun. The interval which has elapsed since the last lower transit of a given meridian by the true sun.
2. Greenwich apparent time/GAT -- Local time at the Greenwich meridian measured by reference to the true sun. The angle measured at the pole or along the equator or equinoctial (and converted to time) from the lower branch of the Greenwich meridian westward through  $360^\circ$  to the upper branch of the hour circle passing through the true (apparent) sun.
3. Greenwich sidereal time/GST -- Local sidereal time at Greenwich. It is equivalent to the Greenwich hour angle of Aries converted to time.
4. local apparent time/LAT -- Local time at the observers meridian measured by reference to the true sun. The angle measured at the pole or along the equator or equinoctial (and converted to time) from the lower branch of the observers meridian westward through  $360^\circ$  to the upper branch of the hour circle passing through the true (apparent) sun.
5. local mean time/LMT -- Local time at the observers meridian measured by reference to the mean sun. It is the angle measured at the pole or along the equator or equinoctial (and converted to time) from the lower branch of the observers meridian westward through  $360^\circ$  to the upper branch of the hour circle through the mean (or average) sun.
6. local sidereal time/LST -- Local time at the observers meridian measured by reference to the first point of Aries. It is equivalent to the local hour angle of Aries converted to time.
7. mean time -- Time measured by reference to the mean sun.
8. sidereal time -- Time measured by reference to the upper branch of the first point of Aries.
9. standard time -- An arbitrary time, usually fixed by the local mean time of the central meridian of the time zone.

10. zone time -- The time used throughout a 15° band of longitude. The time is based on the local mean time for the center meridian of the zone.
11. zulu time/Z -- A expression indicating Greenwich mean time. Usually expressed in four numerals (0001 through 2400).

#### time, adjustment/calibration

That element of maintenance time during which the needed adjustment of calibrations are made.

#### time correction

Correction of a track position to agree with predicted track positions to account for system processing delays and the asynchronous relationship between radar target detection and tracking calculations.

#### time-dependent password

A password which is valid only at certain times of the day or during a specific interval of time.

#### time element suffix

The time suffixed to the destination fix of a flight plan. If the flight plan is proposed, the time is the estimated time en route (ETE); if the flight plan is active, the time is the estimated time of arrival (ETA). A delay time element may also be suffixed to fix elements of Field 10 other than the destination. A delay time element is preceded by a D (e.g., D1+45). The ETE and ETA consist of four digits (e.g., 1425; 0115).

#### time group

Four digits representing the hour and minutes from the 24-hour clock (e.g., 0905). Time groups are understood to be GMT unless a time zone designator is used to indicate local time (e.g., "0205M"). The term "zulu" is used when ATC procedures require a reference to UTC. A time zone designator is used to indicate local time; e.g., "0205M." The end and the beginning of the day are shown by "2400" and "0000" respectively.

#### time-in-service

With respect to maintenance time records, means the time from the moment an aircraft leaves the surface of the earth until it touches it at the next point of landing.

### time preparation

That element of maintenance time needed to obtain the necessary test equipment and maintenance manuals, and set up the necessary equipment to initiate fault location.

### time record

Denotes all data which is written for a one second ATC simulation. It in no way implies that the data written on the simulation tape is in a single physical tape record.

### time sharing

A form of automated data services in which multiple users have access to a remotely located computer by means of on-site terminals and telecommunications equipment.

### time zone

A band on the earth approximately 15° of longitude wide, the central MERIDIAN OF EACH ZONE GENERALLY BEING 15° or a multiple removed from the Greenwich meridian so that the standard time of successive zones differs by one hour.

### tip and ring

Tip/T and ring/R are terms used to identify the two conductors of a circuit. They originate from switchboard terminology pertaining to cord circuits. A four wire circuit is designated T<sub>1</sub>, T<sub>2</sub>, and R<sub>1</sub>, and R<sub>2</sub>.

### "TO-FROM" equipment

RNAV equipment in which the desired path over the ground is defined as a specific (input quantity) course emanating either to or from a particular waypoint. In this equipment, the aircraft may fly either "TO" or "FROM" any single designated waypoint.

### "TO-TO" equipment

RNAV equipment in which a path is computed which connects two waypoints. In this equipment, two waypoints must always be available, and the aircraft is usually flying between the two waypoints and "TO" the active waypoint.

### toll office/T.O.

A telephone office serving one or more central offices. It contains the equipment necessary to establish connections

between remote central offices. It is sometimes called a toll center.

#### torching

The burning of fuel at the end of an exhaust pipe or stack of a reciprocating aircraft engine, the result of an excess richness in the fuel air mixture.

#### torn tape system

An older manual message routing system in which teletypewriter messages were relayed by reperfdrated paper tape hand carried from the receiver - the reperfdrator of an incoming tributary - to the transmitter distributor of an outgoing tributary.

#### tornado (cyclone, twister)

A violently rotating column of air, pendant from a cumulonimbus cloud, and nearly always observed as "funnel shaped." It is the most destructive of all small scale atmospheric phenomena..

#### total estimated elapsed time (ICAO)

For IFR flight, the estimated time required from takeoff to arrive over that designated point, defined by reference to navigational aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from takeoff to arrive over the destination aerodrome.

#### total flight services

The sum of flight plans originated and pilot briefs, multiplied by two, plus the number of aircraft contacted. No credit is allowed for airport advisories.

#### total radiated power/TRP

The effect of TCAS transmissions on the beacon environment is measured in terms of the total radiated power. For a lossless antenna, the TRP is equal to the net power delivered to the antenna input terminals. If the antenna is not lossless but has a vertical pattern that is similar to that of a matched quarter-wave stub, the TRP may be approximated as:  $TRP = P * G * (BW/360)$ , where P is the net power delivered to the antenna input terminals, G is the peak antenna gain relative to a matched quarter-wave stub,

and BW is the 3 dB azimuth beamwidth in degrees (BW = 360° for an omnidirectional antenna).

total scheduled interruption time

Total scheduled facility/service down time.

1. facility reporting -- Time begins when the facility is released by appropriate personnel (Air Traffic, military) and ends when the facility is restored by appropriate Airway Facilities personnel.
2. service reporting -- Time begins when the service is released by appropriate personnel (Air Traffic, military) and ends when the service is restored and accepted by the user. Should Air Traffic personnel not require or desire the service at the time of acceptance, the time ends upon acceptance. For example, an en route communications frequency that was restored but AT did not require its use.

total unscheduled interruption time

The amount of unscheduled time a facility/service is not available for normal operations. When applicable, the time from a computer printout may be used for the start time of an unscheduled interruption.

1. facility reporting -- Time begins with initial FAA awareness of the interruption and ends when the facility is restored by appropriate Airway Facilities personnel.
2. service reporting -- Time begins with initial FAA awareness of the interruption and ends when the service is restored and accepted by the user (Air Traffic, military).

totally enclosed manner

Any containment that will ensure that any exposure of human beings or the environment to any level of a hazard, will be insignificant; that is, not measurable or detectable by any scientifically acceptable analytical method.

touch and go/touch and go landing

An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway.

### touchdown

(1) The point at which an aircraft first makes contact with the landing surface. (2) Concerning a precision radar approach, it is the point where the glide path intercepts the landing surface.

### touchdown (ICAO)

The point where the nominal glide path intercepts the runway. This is a datum and not necessarily the actual point at which the aircraft will touch the runway.

### touchdown RVR

The RVR readout values obtained from RVR equipment serving the runway threshold. See visibility.

### touchdown zone

The first 3000 feet of the runway beginning at the threshold. The area is used for determination of Touchdown Zone Elevation in the development of straight in landing minimums for instrument approaches.

### touchdown zone (ICAO)

The portion of the runway, beyond the threshold, where it is intended landing aircraft first contact the runway.

### touchdown zone elevation/TDZE

The highest elevation in the first 3000 feet of the landing surface. TDZE is indicated on the instrument approach procedures chart when straight in landing minimums are authorized.

### tower

See Airport Traffic Control Tower.

1. tower categories -- Includes those with approach control/AC and non-approach control. This same category breakdown applies for combined station/tower/CS/T.

### tower bright display

A radar-scope system designed to be viewed in a normally lighted room. See hi-bright display.

### tower control graphic display

Digitized search, beacon, and weather radar display;  
processed search and beacon radar display; CWSU products.

1. tower control tabular display -- IFR flight data display, time, altimeter setting, center field winds, runway configuration, landing facilities status, approach light settings, RVR, RVR thresholds, wind shear, weather messages, vortex advisory safe approach distance (when available), NOTAMs, NAVAID status, satellite airport weather, special messages, telephone numbers, reconfiguration sequences, indexes.

### tower en route control service/tower to tower

The control of IFR en route traffic within delegated airspace between two or more adjacent approach control facilities. This service is designed to expedite traffic and reduce control and pilot communications requirements.

### tower en route flight

A flight which is not controlled (at any time) by an ARTCC. In general, it is a flight which is provided departure and arrival service by one or more terminal area facilities. In the high density NAS Terminal area there are two types: (a) intra-facility (arrives and departs within the NAS Terminal area), (b) inter-facility (arrives from, or departs to, an airport outside the NAS Terminal area)- See pogo.

### tower visibility

Prevailing visibility determined from the control tower.

### towering cumulus

A rapidly growing cumulus in which the height of the cloud exceeds the width.

### TPX-42

A numeric beacon decoder equipment/system. It is designed to be added to terminal radar systems for beacon decoding. It provides rapid target identification, reinforcement of the primary radar target, and altitude information from Mode C. See Automated Radar Terminal System, transponder.

### track/Tr

- (1) The actual flight path of an aircraft over the surface of the earth, or its graphic representation; also called



track made good. (2) In a TCAS system, the estimated position and velocity of a single aircraft based on correlated surveillance data reports. (3) A smooth edge-like surface over which slides or carriage rollers are to travel. Also known as a rail. (4) Dynamic data stored in the computer which describes the position and velocity of a flight as determined by the tracking process from primary/beacon radar data and flight plan information, if paired. See also paired track, tracking mode, and route.

1. along-track distance/ATD -- The distance along the desired track from a waypoint to a perpendicular line from the desired track to the aircraft.
2. along-track error/ATRK -- A fix error along the flight track resulting from the total error contributions of the airborne equipment only.
3. cross-track deviation -- The perpendicular deviation that an aircraft is to the left or right of a desired track as displayed on an indicator such that deflection is to the left when the aircraft is to the right of the desired track.
4. cross-track distance -- The perpendicular distance that an aircraft is to the left or right of a desired track.
5. desired track -- The planned or intended track between two waypoints. Measured from either magnetic or true north, the instantaneous angle may change from point to point along the great circle track between two waypoints.
  - a. desired track intercept point -- The point at which the aircraft's current track/TK crosses the desired track.
6. track angle/TKA -- Instantaneous angle measured from either true or magnetic north to the aircraft's track.
  - a. track angle error/TAE -- The difference in degrees (clockwise or counter-clockwise) that the track is to the desired track.
7. track bearing -- In a TCAS system, the direction of another aircraft as seen from the intruder aircraft, measured in degrees clockwise (as viewed from above) from the flight vector of the intruder aircraft.
8. track class -- A Mode 3/A beacon transponder capability, based on the airborne equipment qualifier

which indicates if the track class will be beacon or primary.

9. track disassociation -- whenever a track fails to correlate or a target for a successive scans, it is removed from the tab coast list.
10. track display -- An alphanumeric plan position display based on the track position and velocity.
11. track life -- The reference period during which a tracked aircraft was in the area of double radar coverage. See automatic track life.
12. track loss probability -- Describes the system's susceptibility to loss of track. Track loss is caused by poor radar data continuity and/or stringent maneuvers on the part of the target being tracked.
13. track maneuver status/TMS -- To aid the setting of the tracking modes, a track maneuver status (TMS) will be defined to the conditions below:
  - a. en route - The track has been matched to a flight plan and has not been assigned any other status.
  - b. small turn - The turn size indicator is set to SMALL.
  - c. large turn - The turn size indicator is set to LARGE.
  - d. hold - The track has been detected past a hold fix.
  - e. delay - The Start Delay action has been entered.
  - f. none - The track is not matched.
  - g. crosstell - The data (position and velocity) is being crosstold from an adjacent center. (TMS set to CROSSTELL in receiving center only.)
14. track merit -- A dash in the automatic tracking function that represents the type (preferred or supplementary) of radar returns used in computing a track, and sets a track merit designator (TMD). The TMD is utilized for supplementary site acceptance control, tracking mode analysis and the decision process for automatic termination of tracks.

15. track next fix -- That fix of the flight plan route which the computer program expects the track to reach next.
16. track overlap -- The condition when the Primary Search Areas of two or more tracks overlap at any point.
17. track sort box/TSB -- An area specified in adaptation which is used for the simplified correlation of radar data with system tracks. A grid of identical TSB's are aligned with the system axis, are of the same dimension as radar sort boxes, and are offset from the radar sort boxes by 1/2 the length and width of the radar sort box.
18. track swap probability -- A measure of how well the system can differentiate between data trails in close proximity.
19. track velocity -- The speed and heading of a flight as determined by the tracking process.
20. track-while-scan -- See tracking.

#### track (ICAO)

The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid).

#### trackball

Positional identification device available to the controller for identifying an X, Y position on the PVD.

1. trackball unit - An input device mounted on a radar equipment display console with an associated position marker on the plan view display. Manipulation of the trackball moves the marker on the display.

#### tracking

A computer logical process which uses primary/beacon radar data and paired flight data (if any) to determine the actual position and velocity of a flight. Radar target identification through manual or automatic means; positional agreement of a radar target and the computer predicted position; computation of the difference between the predicted position and the actual position of the radar target.

1. track initiation (automatic) -- Tracking started as the result of a received discrete beacon code matching an assigned beacon code in computer storage.
2. track initiation (manual) -- Tracking started as the result of a controller action and identifying the radar data to the computer.
3. tracking B/S -- The ratio of the number of tracking scans in which either a correct beacon or search datum is correlated to the total number of tracking scans for a given track. Two correlations in one scan (i.e., one each sub-scan) are counted as one.
4. tracking jitter -- The variation in the distance between successive predicted track positions for an aircraft in straight line flight and flying at constant ground speed.
5. tracking mode -- Methods of obtaining track position and velocity are:
  - a. flight plan aided straight line/FLAT -- A method of automatic tracking when flight plan velocity is used for track velocity in computing predicted track position.
  - b. flight plan aided turn/FLAT TURN -- A method of tracking where primary/beacon radar data falling in the direction of a flight plan indicated turn is given priority.
  - c. flight plan aided coast/FLAT COAST -- A method of tracking where only flight plan velocity and no primary/ beacon data are used for track position prediction.
  - d. free track/FREE -- A method of tracking where track velocity and position are derived from primary/beacon radar data.
  - e. free coast -- A method of tracking where track position is predicted on the basis of dead reckoning without recourse to primary/beacon radar data. See track.
6. tracking mode indicator -- Indicates the mode in which the system is maintaining a track. The following tracking modes are provided: Free Track (FREE), Free Coast (COAST), Flight Plan Aided Straight Line (FLAT), Flight Plan Aided Turn (FLAT TURN) and Flight Plan Aided Coast (FLAT COAST).

7. tracking scan -- The period involving two successive operations of TRATK (nominally 10 - 12 seconds).
8. tracking sub-scan -- The period (nominally five seconds) between successive operations of Tracking Sub-program (RATK). Defines the frequency at which track smoothing and prediction are done.
9. tracking trouble -- Any difficulty experienced by the computer in tracking a flight that is serious enough to compromise confidence in the identity of the primary/beacon radar data.
10. tracking trouble detection -- A computer logical process which attempts to identify tracking trouble automatically.
11. tracking trouble status -- The trouble condition which results in a track merit of "unreliable".

#### trade off

The process by which a designer can evaluate one or more proposed design considerations in terms of possible effects in other areas and make an intelligent decision based upon these evaluations.

#### trade winds

Prevailing, almost continuous winds blowing with an easterly component from the subtropical high pressure belts toward the intertropical convergence zone; northeast in the Northern Hemisphere, southeast in the Southern Hemisphere.

#### traffic

(1) A term used by a specialist to transfer radar identification of an aircraft to another controller for the purpose of coordinating separation action. Traffic is normally used in response to a handoff or point out, in anticipation of a handoff or point out, or in conjunction with a request for control of an aircraft. (2) A term used by ATC to refer to one or more aircraft.

1. traffic advisories -- Advisories issued to alert pilots to other known or observed air traffic which may be in such proximity to the position or intended route of flight of their aircraft to warrant attention. Such advisories are based on; visual observation, observation of radar identified and non identified aircraft targets on an ATC radar display and verbal

reports from pilots or other facilities. The word "traffic" followed by additional information, if known is used to provide such advisory; e.g., "Traffic, two O'clock, one zero miles, southbound, eight thousand." Traffic advisory service is provided to the extent possible depending on higher priority duties of the controller or other limitations' e.g., radar limitations, volume of traffic, frequency congestion or controller workload. Radar/non radar traffic advisories do not relieve the pilot of his responsibility to see and avoid other aircraft. Pilots are cautioned that there are many times when the controller is not able to give traffic advisories concerning other traffic in the aircraft's proximity. When a pilot requests or is receiving traffic advisories, he/she should not assume that all traffic will be issued. (Refer to AIM)

#### Traffic Alert and Collision Avoidance System/TCAS

An airborne collision avoidance system based on radar beacon signals which operates independent of ground based equipment. TCAS-I generates traffic advisories only. TCAS II generates traffic advisories, and resolution (collision avoidance) advisories in the vertical plane.

#### traffic capacity

1. traffic capacity negotiations -- Discussions between various ATC facilities and the traffic management system to determine traffic capacity levels.
2. traffic capacity report -- Airport acceptance rates, sector saturation levels, fix loading thresholds.
3. traffic capacity report request -- A request by the traffic management system for a traffic capacity report from the ATC facility.

#### traffic control

Clearances and advisories by the appropriate ATC authority to promote the safe, orderly, and expeditious flow of air traffic.

1. traffic control transmission -- The transmission of an air traffic control message from a controller to a pilot over an RF link which uses air (free space) as the communications medium.

### traffic demand/density

Specific number of aircraft expected to be over a particular area or at a particular airport, as estimated by an ACF traffic management coordinator.

### traffic diversion message

Messages from an ACF identifying aircraft that have been diverted from their planned route of flight because of a build up of traffic in a particular area.

### traffic flow

1. traffic flow data -- Flow advisories and directives, traffic status and projections, and delay forecasts.
2. traffic flow data request -- a request for traffic flow data.
3. traffic flow negotiations -- Discussions between various ATC facilities and traffic management system to determine the most efficient traffic flow.
3. traffic flow strategy -- The selected flow control technique to be used by an ACF in a particular traffic situation.

### traffic information (radar)

Information issued to alert an aircraft to any radar targets observed on the radar display which may be in such proximity to its position or intended route of flight to warrant its attention.

### traffic management advisories

Air traffic system problems disseminated to users and field facilities which will enable them to plan aircraft movements in a safe, orderly and efficient manner.

### traffic pattern

The traffic flow that is prescribed for aircraft landing at, taxiing on, and taking off from an airport. The usual components of a traffic pattern are upwind leg, cross-wind leg, downwind leg, base leg, and final approach.

### traffic restrictions

Specific actions being taken at an ACF as a result of a traffic flow problem.

### traffic situation report

Free flow messages that contain all or part of the following information; traffic demand/density, traffic flow strategy, delay forecast, traffic restrictions, or traffic diversion messages.

### traffic status and projections

The present traffic situation in a particular sector or area and what is expected to be the situation in the near future.

### traffic density

The number of aircraft per square nautical mile. In a TCAS system, this value is calculated by taking the number of transponder equipped aircraft within R NM of own aircraft, divided by  $3.14 * (R \text{ NM})^2$ . Transponder equipped aircraft include Mode S and ATCRBS Mode A and Mode C, and exclude own aircraft.

### traffic flow security

The protection that results from those features in some crypto-equipment that conceals the presence of valid messages on a communications circuit, usually by causing the circuit to appear busy at all times or by encrypting the source and destination addresses of valid messages.

### traffic information

See traffic advisories.

### traffic in sight

Used by pilots to inform a controller that previously issued traffic is in sight.

### traffic no longer a factor

Indicates that the traffic described in a previously issued traffic advisory is no longer a factor.

### traffic management coordinator

A traffic management specialist resident at the ARTCC traffic management unit who provides coordination between the national level central flow control function of the ATCCC and the local ARTCC controllers.



## Traffic Management Unit/TMU

A non-control, coordination position at ARTCCs connected to the central flow control function at the ATCCC and responsible for dissemination of flow control information at the local level.

## traffic pattern

The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are:

1. upwind leg -- A flight path parallel to the landing runway in the direction of landing.
2. crosswind leg -- A flight path at right angles to the landing runway off it's upwind end.
3. downwind leg -- A flight path parallel to the landing runway in a direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg.
4. base leg -- A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline.
5. final approach -- A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. An aircraft making a VFR straight in approach is also considered to be on final approach.

## train

Aircraft controlled in groups flowing only in one direction on a route. A train has a lead aircraft and 5 - 10 members.

## training modification

A temporary modification installed to facilitate the use of a system, subsystem or equipment for training purposes. The modification can be readily removed in the event the system, subsystem or equipment is placed in use in an operational environment.

## training time

The on-position ATC instructional time not including performance evaluations.

### trajectory

A time-ordered sequence of all converted fixes and route segments for a flight plan or trial plan. A trajectory associates time with the converted fixes.

### transaction

The process of accepting and processing a radar interrogation and generating a corresponding reply.

### transcribed weather broadcast/TWEB

A continuous recording of meteorological and aeronautical information that is broadcast on L/MF and VOR facilities for pilots. (Refer to AIM)

### transfer

(1) The conveyance of control from one mode to another by means of instructions or signals. (2) The conveyance of data from one place to another. (3) An instruction for transfer. (4) To copy, exchange, read, record, store, transmit, transport, or write data. (5) An instruction which provides the ability to break the normal sequential flow of control.

1. transfer, parallel -- A method of data transfer in which the characters of an element of information are transferred simultaneously over a set of paths.
2. transfer, serial -- A method of data transfer in which the characters of an element are transferred in sequence over a signal path in consecutive time positions.

### transfer characteristics

That function which, when multiplied by an input magnitude, will give a resulting output magnitude. For example, in camera tubes, a relation between the illumination on the tube and the corresponding output signal current, under specified conditions of illumination.

### transfer functions

A set of statements which aid in describing the logical operation of a sub-program by indicating the results of certain logical paths in the sub-program.

### transfer lever

The lever which positions the six code bar shift bars of a teletype printer.

### transfer of control

The action whereby control responsibility for an aircraft is transferred from one controller to another.

1. transferring controller/facility -- A controller/facility transferring control of an aircraft to another controller/facility.

### transfer of control (ICAO)

Transfer of responsibility for providing air traffic control service.

### transferring unit/controller (ICAO)

Air traffic control unit/controller in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit/controller along the route of flight.

### transient error

A hardware error which has disappeared upon re-try. See re-trievable error.

1. transient I/O error -- Any hardware error which does not recur when an I/O operation is retried. See I/O error.
2. transient fault -- An intermittent failure or a temporary interference.

### transit time

The time required for a transition.

### transiting flight

A flight which traverses NAS terminal airspace.

### transition

(1) The general term that describes the change from one phase of flight or condition to another; e.g., transition from en route flight to the approach or transition, or the transition from IFR to VFR. (2) A published procedure (SID

transition) used to connect the basic SID to one of several en route airways/jet routes, or a published procedure (STAR transition) used to connect one of several en route airways/jet routes to the basic STAR. (3) A change in state of a teletypewriter line. The act of a line going from a marking state to a spacing state, or vice versa, is known as a transition. (4) The change in electrical current from one steady state or condition to another steady state or condition.

1. transition airspace -- The boundary within which exists terminal airspace. Transit on airspace lies 40 to 60 miles from the terminal and is the area where an en route controlled aircraft will normally be held, when necessary, prior to commencing approach. It is the area of transition from en route ATC to approach ATC.
2. transition altitude -- A mode C altitude determined by the program to be a reported altitude for a descending or ascending flight.
3. transition area -- See controlled airspace.
4. transition control -- The control process which brings arrival aircraft down from en route or intermediate altitudes and feeds the Approach Controller or Final Spacing Controller. Transition control usually provides the flow metering function of adjusting the arrival rate to the acceptance rate. It is often an en route function in the present system. See tentative scheduling.
5. transition fix -- For preferential routes: An adapted fix that determines the application of a PDR, PDAR, or PAR. For SIDs and coded routes: An adapted fix that determines the route to be used between a fix on the SID or coded route and the transition fix. For a STAR: A filed fix from which an adapted arrival route is applied.
6. transition level -- The flight level below which heights are expressed in feet MSL and are based on an approved station altimeter setting.
7. transition lines -- Described by two or more modes and/or fixes. They indicate the application of PARs or PDRs or in the absence of an associated PAR or PDR, control the altitude strata in which the flight is posted between the arrival-line (A/line) and/or departure-line (D/line) and the associated arrival/departure airport.

8. transition point -- A point at an adapted number of mile from the vertex at which an arrival aircraft would normally come descent from its en route altitude. This is the first fix adapted on the arrival speed segments.
9. transition route -- An adapted route to be inserted between the exit fix of a SID or coded route and an adapted transition fix filed in the flight plan.

#### transmissometer

An apparatus used to determine visibility by measuring the transmissivity of light through the atmosphere. It is the measurement source for determining runway visual range and runway visibility value. See visibility.

#### transmitting in the blind/blind transmission

A transmission from one station to other stations in circumstances where two way communication cannot be established, but where it is believed that the called stations may be able to receive the transmission.

#### translate

To change information from one form of representation to another without significantly affecting the meaning.

#### transmitter-distributor/TD

A tape reader and distributor which senses code combinations perforated in a paper tape and converts them into electrical code pulses for distribution over a signal circuit. In multi-point Service B usage, these devices are connected to Model 28 stunt boxes so as to automatically transmit to the circuit when certain "start" functions are received (e.g., a TSC via an APULS poll).

1. transmitter-distribute unit/T/D -- Connected to Model 28 stunt boxes so as to automatically transmit to the circuit when certain "start" functions are received. See APULS.

#### transmitter start code/TSC

Usually a two or three letter call that is sent to an outlying teletypewriter which automatically turns its tape transmitter (TD) on.

### transponder

(1) A general term for any device which provides a reply when interrogated. (2) The airborne radar beacon receiver/transmitter portion of the ATCRBS which automatically receives radio signals from all interrogators on the ground and which selectively replies with a specific reply pulse or pulse group only to those interrogations being received on the mode to which it is set to respond. See bracket decoding, beacon.

### transponder (ICAO)

A receiver/transmitter which will generate a reply signal upon proper interrogation; the interrogation and reply begin on different frequencies.

### transport, tape

The mechanism which moves magnetic or paper tape past sensing and recording heads and usually associated with data processing equipment.

### transposition

The interchanging of the positions of conductors to reduce crosstalk and noise.

### trap door

A breach created intentionally in an AIS for the purpose of collecting, altering or destroying data.

### trial modification

A Synonym for test modification.

### trial plan

A modified form of an active flight plan that is proposed as a possible replacement for that active flight plan. A trial plan is processed by route processing and advanced automation functions before entry as an active flight plan or amendment.

### tributary circuits

These are special off-net teletype circuits, sometimes used for manual relay operation of service B.

### tributary facility

An aeronautical fixed facility that may receive or transmit messages but does not relay except for the purpose of serving similar facilities connected through it to a communications center.

### trigger level

The threshold at which the transponder replies to 90 percent or more of the interrogation.

### trilateration

A system by which an aircraft is located by DME relative to two separate known locations between which the distance is known. The resultant triangle precisely locates the aircraft.

### trip lever

A lever which will cause some latch or catch to be released.

### trojan horse

A computer program that is apparently or actually useful that contains a trap door.

### tropical air

An air mass with characteristics developed over low latitudes. Maritime tropical air (mT), the principal type, is produced over the tropical and subtropical seas; very warm and humid. Continental tropical (cT) is produced over subtropical arid regions and is hot and very dry. Compare polar air.

### tropical cyclone

A general term for a cyclone that originates over tropical oceans. By international agreement, tropical cyclones have been classified according to their intensity.

1. tropical depression - Wind up to 34 knots (64 km/h).
2. tropical storm - Winds of 35 to 64 knots (65 to 119 km/h).
3. hurricane (typhoon) - Winds of 65 knots or higher (120 k/hr).

### tropopause

The transition zone between the troposphere and stratosphere, usually characterized by an abrupt change of lapse rate.

### troposphere

That portion of the earth's surface to the tropopause; that is, the lowest 10 to 20 kilometers of the atmosphere. The troposphere is characterized by decreasing temperature with height, and by appreciable water vapor.

### trouble-hunting tests

Tests made on circuits reported to be inoperative or malfunctioning. These tests may consist of all the checks made on a circuit order, plus additional tests, if necessary.

### trough (trough line)

In meteorology, an elongated area of relatively low atmospheric pressure; usually associated with and most clearly identified as an area of maximum cyclonic curvature of the wind flow (isobars, contours, or streamlines). Compare with ridge.

### true airspeed

The airspeed of an aircraft relative to undisturbed air. True airspeed is equal to equivalent airspeed multiplied by  $(p_0/p)^{1/2}$ .

### true altitude

See altitude.

### true azimuth/Zn

The angle at the zenith measured clockwise from true north to the vertical circle passing through the body.

### true wind direction

The direction, with respect to true north, from which the wind is blowing.

### truncation

The process of removing route elements from the route of flight (for strip printing purposes) when these route



elements are beyond the first external filed route element for the facility.

### trunk

(1) A communications path generally between items of equipment within a building (two switchboards, for example). A trunk may also be used between central offices, cities, etc. (2) A two-wire or four-wire circuit which can be a leased or Government owned facility connecting the EVS System with external or remote equipment. Normally, these facilities will be terminated at either the ARTCC or RCAG Main Distribution From (MDF) of the EVS System. The trunk will normally include the protection and isolation equipment when leased facilities are used. The trunk can be switch connected at one (1) or both ends.

1. trunk circuit -- The circuitry required to terminate, convert, condition and provide transmission, supervisory and control signals between the trunk side of the interconnection network(s) and MDF. This circuitry can be divided between actual network terminations and equipment groupings that terminate at the MDF.
2. trunk group -- One (1) or more trunks between the same end MDF terminations. Trunks within a trunk group may be geographically diversified between end terminations.

### tube

Predesignated three-dimensional path through airspace, normally assigned under high density and instrument flight conditions to aircraft having maximum equipment.

### turbojet aircraft

An aircraft having jet engines in which the energy of the jet operates a turbine which in turn operates an air compressor.

### turbojet en route descent

A procedure for effecting the descent of military jet aircraft from an en route altitude to the final approach without execution of the maneuvers prescribed in a published high altitude instrument approach procedure. Its purpose is to expedite the movement of air traffic.

### turboprop aircraft

An aircraft having a jet engine in which the energy of the jet operates a turbine which drives a propeller.

### turbulence

In meteorology, any irregular or disturbed flow in the atmosphere.

### turn indicator

A turn indicator will be set to on for each matched track when a flight plan predicted turn is detected. A turn will be detected when the calculated inequality is satisfied and the angle between the two intersecting flight plan route segments is greater than the flight plan segment heading difference.

### turn point(s)/TP

A waypoint which identifies a track change from one desired track to another along a given route.

### turned-up

An expression used to indicate that a circuit has been restored to service. It is turned-up after circuit order routine or trouble-hunting tests have been completed. A circuit is turned-up when it meets all its transmission and signaling requirements.

### turnkey

Complete single prime contractor responsibility from start of contract to the point of turning over the final system, ready for operational use.

1. turnkey project -- A project in which the installation of a facility, system or equipment is accomplished by a contractor.

### twice weekly

A scheduling term, meaning twice each calendar week, and at three or four day intervals. Sometimes, the term semi-weekly is used instead.

### twilight

- (1) The intervals of incomplete darkness following sunset and preceding sunrise. The time at which evening twilight

ends or morning twilight begins is determined by arbitrary convention. (2) That period of day, after sunset or before sunrise, when the observer receives sunlight reflected from the atmosphere.

1. astronomical twilight -- That period which ends in the evening and begins in the morning when the sun reaches  $18^{\circ}$  below the horizon.
2. civil twilight -- That period which ends in the evening and begins in the morning when the sun reaches  $6^{\circ}$  below the horizon.
3. nautical twilight -- That period which end in the evening and begins in the morning when the sun reaches  $12^{\circ}$  below the horizon.

#### twister

A colloquial term for a tornado.

#### two-hour(s)

A scheduling term, meaning twelve times each calendar day, four times each shift or watch, and at approximately two-hour intervals.

#### two way radio communications failure

See lost communications.

#### two-way tone circuit

A telephone circuit carrying control and/or monitoring voice-frequency signals at discrete audio frequencies in both sending and receiving directions. An example is a TACAN control circuit wherein facility control tones are transmitted from the control station to the TACAN, and facility status monitoring tones are transmitted from the TACAN to the control station. Another example of a two-way tone circuit is a BUEC voice grade circuit that handles channel access and transmitter keying signals toward the remote outlet and also handles status signals in the reverse direction. A two-way tone circuit may be used over either two wire or four wire transmission facilities.

#### two wire circuit

A circuit basically consisting of a pair of wires handling information in two directions. Normally, communications circuit of this type terminate at the customer's premises in two wires, however, they may contain some facilities that

are four wire, such as a repeater or carrier. The use of hybrids at each end allows for converting the circuit into separate transmitter and receiver termination (two wire line to four wire equipment).

#### type

(1) As used with respect to the certification, ratings, privileges, and limitations of airmen, means a specific make and basic model of aircraft, including modifications thereto that do not change its handling or flight characteristics. Examples include: DC-7, 1049, and F-27. (2) AS used with respect to the certification of aircraft, means those aircraft which are similar in design. Examples include: DC-7 and DC-7C; 1049G and 1049H; and F-27 and F-27F. (3) AS used with respect to the certification of aircraft engines, means those engines which are similar in design. For example, JT8D and JT8D-7 or JT9D-3A and JT9D-7 are engines of the same type. (4) The casting (die) for a letter, character or figure that, when pressed against an inked ribbon onto a paper, will leave an impression upon the paper.

#### type box

The holder for the type pallets in a teletypewriter machine.

#### type designation

An assigned combination of alphanumeric characters used to identify specific custom-built production equipment. The identification is normally imprinted on the equipment nameplate. For example: CA-1660, FAA-7201, RBT-2, TU-6 etc.

#### type E crosstell message

A crosstell message used to forward data between two computer equipped facilities (Phase I and NAS ARTCC) on an active aircraft (as opposed to a proposed flight plan).

#### type N crosstell message

A crosstell message used to forward a proposed flight plan to an adjacent computer equipped facility (Phase I and NAS ARTCC) whenever such data are required for coordination purposes.

#### type pallets

A short metal bar which is the mounting for a type casting (die). It is mounted, along with a compression spring in a type box.

typer

The complete printer equipment that transcribes a telegraph message that has been received in proper form.

typhoon

A tropical cyclone in the Eastern Hemisphere with winds in excess of 65 knots (120 km/h).

typing unit

In a teletype system, the unit which does the actual printing, including the type box, codebars and similar components which may all be removed as a single assembly.

### U.L. listed

An item included in a current list or report of approved equipment, materials or methods published by Underwriters Laboratories, Inc.

### U. S. Pacific Command/USPACOM

A unified command whose area of responsibility extends from the west coast of America to the east coast of Africa and from the Arctic to the Antarctic.

### ultimate sink

The final destination of heat.

### Ultra High Frequency/UHF

The frequency band between 300 and 3,000 MHz. The bank of radio frequencies used for military air/ground voice communications. In some instances this may go as low as 225 MHz and still be referred to as UHF

### ultralight vehicle

An aeronautical vehicle operated for sport or recreational purposes which does not require FAA registration, an airworthiness certificate, nor pilot certification. They are primarily single occupant vehicles, although some two place vehicles are authorized for training purposes. Operation of an ultralight vehicle in certain airspace requires authorization from ATC.

### unable

Indicates inability to comply with a specific instruction, request or clearance.

### unacceptable input

An input which fails the acceptance checking logic at the front end of an input processing function. Usually, this is an input which has suffered no detectable hardware or programmed errors, but which contains content or format errors.

### unanswerable

Adapted not to receive responses; pertains only to Service B TTY stations.

#### unauthorized person

Any individual who has not established a need, in the performance of his or her duties, for access to any record within a system of records. The system manager of the concerned system of records determines whether the criteria for access is met.

#### unauthorized release

Any spilling, leaking, emitting, discharge, escaping, leaching or disposing from an underground storage tank into groundwater, surface water or subsurface soil.

#### unconditional output

Any change to a display, to a printout, or other response, which is functionally required as a direct result of an input under consideration, and which is not dependent upon any other external inputs which have not already occurred. (For example, disappearance of a PVD data block as a direct result of "Drop FP" input.)

#### uncontrolled aircraft

Those aircraft not participating in or receiving traffic separation service from the ATC system. This term does not include those flights receiving control service from control towers having only visual surveillance in performing control service.

#### uncontrolled airspace

That portion of the airspace which underlies controlled or mixed airspace. Aircraft operating solely in uncontrolled airspace are not presently required to carry navigation, communications, or transponder equipment; however, communications equipment meeting a limited channel capability requirements is needed for operations conducted at a tower equipped field. ATC has neither the responsibility nor the authority for exercising control over air traffic in this airspace.

#### under the hood

Indicates that the pilot is using a hood to restrict visibility outside the cockpit while simulating instrument flight. An appropriately rated pilot is required in the other control seat while this operation is being conducted. (Refer to FAR Part 91)

### undercast

A cloud layer of ten tenths (1.0) coverage (to the nearest tenth) as viewed from an observation point above the layer.

### underground storage tank/UST

Any one or combination of tanks, including connecting underground pipes, which is used for storage of petroleum fuel products and waste oil, the volume of which is 10 percent or more beneath the surface of the ground. Tanks used for heating purposes, septic tanks, surface impoundments and storm water or waste water collection systems are not included.

### unexpired converted fix

A converted fix that is still retained by the program; an expired fix is dropped.

### UNICOM

A non government communications facility which may provide airport information at certain airports. Locations and frequencies of UNICOMs are shown on aeronautical charts and publications. (Refer to AIM, Airport/Facility Directory)

### uniform time update

An output message alerting the controller that a significant time change by the same time increment at each fix has occurred for a given flight.

### unit

A major building block for a group, set, or system consisting of a collection of basic parts, sub-assemblies and assemblies mounted together on a single chassis, or packaged together as a physically independent entity, and normally capable of independent operation in a variety of situations. See module.

1. unit, arithmetic -- That portion of computer hardware in which arithmetic and logical operations are performed. The arithmetic unit generally consists of an accumulator, some special registers for the storage of operands and results supplemented by shifting and sequencing circuitry for implementing multiplication, division, and other desired operations.
2. unit, control -- The portion of a computer which directs the sequence of operations, interprets the



coded instructions, and initiates the proper commands to the computer circuits preparatory to execution.

3. unit, magnetic tape -- The mechanism, normally used with a computer, which handles magnetic tape and usually consists of a tape transport, reading or sensing and writing or recording heads, and associated electrical and electronic equipments. Most units may provide for tape to be wound and stored on reels; however, some units provide for the tape to be stored loosely in closed bins.
4. unit, state -- See state.
5. unit, status -- See status.
6. unit, tape -- A device consisting of a tape transport, controls, a set of reels and a length of tape which is capable of recording and reading information on and from the tape, at the request of the computer under the influence of a program.

#### United States

In a geographical sense means, the 48 contiguous states, Alaska, Hawaii, the District of Columbia, Puerto Rico and the possessions, including the territorial waters and the airspace of those areas.

#### United States air carrier

A citizen of the United States who undertakes directly by lease, or other arrangement, to engage in air transportation.

#### unlimited ceiling

A clear sky or sky cover that does not meet the criteria for a ceiling.

#### unmanned facility

A facility which is normally not occupied by personnel for the conduct or support of NAS operations. Such facilities normally contain equipment which is operated, controlled and monitored from a manned facility.

#### unpaired flight

A flight for which the computer has stored only a flight plan or only a track. See flight.

1. unpaired flight plan -- A flight plan for which the computer program is not maintaining a track (for instance when a flight is below radar coverage). See flight plan.
2. unpaired track -- A track for which the computer program has no stored flight plan information.

#### unpublished route

A route for which no minimum altitude is published or charted for pilot usage. It may include a direct route between NAVAIDs, a radial, a vector or a final approach course beyond the segment of an instrument approach procedure.

#### unscheduled interruption

(1) Any unanticipated interruption regardless of duration of a facility or service. (2) Any out-of-tolerance/out-of-limit condition, which results in the removal of a facility/service from the NAS. (3) A facility that is reported out-of-tolerance by flight inspection. (4) A hardware out-of-tolerance/out-of-limit condition which results from an equipment failure and/or malfunction and which prevents the restoration of a facility/service following a scheduled interruption. The unscheduled interruption starts immediately following the end of the original schedule shutdown, for this situation. (5) A software out of tolerance (specification) condition which prevents the restoration of a facility/service following a scheduled interruption.

#### unsuccessful I/O operation

An I/O operation for which retry procedures have failed for all available paths to the intended device. Also, any I/O operation which suffered a hardware error for which retry procedures are not practical. See retry, non-retrieable I/O error

#### unselected

The state or condition of those levers and/or bars (in a teletype system) which are in a space position when a character has been read into the printer mechanism.

#### unshift

The repositioning of a printer mechanism from figures to letters category.

unstable

See instability.

update

(1) To bring data into agreement with the most recent information available. (2) To change or modify text, as in revise. (3) To change a mental model or "picture." (4) A change of the fix times stored for a flight plan as a result of an entry of a new time data. See also automatic update. and flight plan modification.

updraft

A localized upward current of air.

upgrade

A determination by competent authority that certain classified information requires, in the interest of national security, a higher degree of protection against unauthorized disclosure than currently provided, together with a changing of the classification designation to reflect that higher degree.

uplink

Signals propagated toward a transponder.

upper front

A front aloft not extending to the earth's surface.

upper horizontal motion stop slide

A part of the teletype mechanism which is connected to the number four code bar which, when in the space position, will stop the oscillating rail shift slide in the second column to the right or left of a category center line.

upslope fog

Fog formed when air flows upward over rising terrain and is, consequently, adiabatically cooled to or below its initial dew point.

urgency

A condition of being concerned about safety and of requiring timely but not immediate assistance; a potential distress condition.

### urgency (ICAO)

A condition concerning the safety of a aircraft or other vehicle, or of persons on board or in sight, but which does not require immediate assistance.

### utilization

The demand placed on a particular sector, fix, or airport as it relates to the sector, fix or airport capacity.

### user

(1) The external individual or group that receives service from the NAS (e.g. pilot, air carrier, general aviation, military, law enforcement agency, etc.). (2) Air Traffic personnel, military personnel, or the aviation public. (3) Any authorized person, office or facility that may directly enter into or receive information from a computer system.

### user organization

An organizational element which defines its need for information to be produced by a data system and which continues to supply the input and/or output after the system has been implemented. Usually referred to as the Office of Primary Interest/OPI.

### utility

A computer program which accomplishes a specific function.

### vadoze zone

A geological term meaning the soil found or located directly beneath an underground storage tank and above the water table.

### validation

The performance of tests and evaluations in order to determine compliance with security specifications and requirements.

### vapor pressure

In meteorology, the pressure of water vapor in the atmosphere. Vapor pressure is that part of the total atmospheric pressure due to water vapor and is independent of other atmospheric gases or vapor.

### vapor trail

See condensation trail.

### variable length field

A group of characters or symbols necessary to form a specific data group and which may be composed of a variable number of characters or symbols up to a fixed maximum length for each data group. See field.

### variable range marker/VRM

An electronic marker, variable in range, displayed on a CRT, for purposes of accurate ranging; sometimes called a bomb release pip.

### variation/var

The angle difference at a given point between true north and magnetic north expressed as the number of degrees which magnetic north is displaced east or west from true north. The angle to be added algebraically to true directions to obtain magnetic directions.

### varley

Made with a Wheatstone bridge and used to detect a difference (unbalance) in the dc resistance of the tip and ring conductors.

### vector

A heading issued to an aircraft to provide navigational guidance by radar.

### vectoring, radar (ICAO)

Provision of navigational guidance to aircraft in the form of specific headings, based on the use of radar.

### veering

Shifting of the wind in a clockwise direction with respect to either space or time: opposite of backing. Commonly used by meteorologists to refer to an anticyclonic shift (clockwise in the Northern Hemisphere and counterclockwise in the Southern Hemisphere).

### verify

(1) Request confirmation of information; e.g., "verify assigned altitude." (2) To provide the truth of an activity or matter by confirmation, as in verifying communication contact with an aircraft.

#### 1. verify specific direction of takeoff (or turns after takeoff)

Used by ATC to ascertain an aircraft's direction of takeoff and/or direction of turn after takeoff. It is normally used for IFR departures from an airport not having a control tower. When direct communication with the pilot is not possible, the request and information may be relayed through an FSS, dispatcher or by other means. See IFR takeoff minimums and departure procedures.

### vertex

The last fix adapted on the arrival speed segments. Normally, it will be the outer marker of the runway in use. However, it may be the actual threshold or other suitable common point on the approach path for the particular runway configuration.

#### 1. vertex time of arrival/VTA -- A calculated time of aircraft arrival over the adapted vertex for the runway configuration in use. The time is calculated via the optimum flight path using adapted speed segments.

### vertical visibility

The distance one can see upward into a surface based obscuration. (2) The maximum height from which a pilot in flight can recognize the ground through a surface based obscuration.

### vehicle

All conveyances, except aircraft, used on the ground to transport persons, cargo or equipment.

1. airfield service vehicles -- Those vehicles operated by airport management, on the aircraft movement area, routinely used for service, maintenance and construction.
2. aircraft support vehicles -- Those vehicles routinely used on the aircraft aprons or parking areas in support of aircraft operations.

### velocity vector

A straight line emanating from a radar track symbol (on a PVD) indicating the anticipated path of tracked aircraft in terms of flying time.

### verification

Substantiation that an individual possesses the technical knowledge and proficiency to determine the adequacy of the performance of a system/subsystem/equipment and the ability to correct malfunctions.

1. verification credentials -- Written affirmation that an individual possesses the technical knowledge and proficiency to assume responsibility for a system/subsystem/equipment.

### vertical deviation/VDEV

The deviation of the aircraft above or below the vertical profile as displayed on an indicator such that deflection is up when the aircraft is below the vertical profile.

### vertical navigation/VNAV

A function of RNAV equipment which calculates, displays and provides guidance to a vertical profile or path.

### vertical profile/VP

A line or curve, or series of connected lines and/or curves in the vertical plane, defining an ascending or descending flight path either emanating from or terminating at a specified waypoint and altitude, or connecting two or more specified waypoints and altitudes. In this sense, a curve may be defined by performance of the airplane relative to the air mass.

1. vertical profile angle error/VP AE -- The difference in degrees that current aircraft flight path angle makes with the vertical profile.
2. vertical profile intercept point/VPIP -- The point at which the current aircraft flight path angle intercepts the vertical profile.

### vertical positioning

The sequence of actions involved in positioning of the type box to select printing in one of the four horizontal rows of the type box.

### vertical separation

Separation established by assignment of different altitude or flight levels.

### vertical speed limit/VSL advisory

One of the following TCAS resolution advisories: DON'T CLIMB FASTER THAN 500 FPM, DON'T CLIMB FASTER THAN 1,000 FPM, DON'T CLIMB FASTER THAN 2,000 FPM, DON'T DESCEND FASTER THAN 500 FPM, DON'T DESCEND FASTER THAN 1,000 FPM, DON'T DESCEND FASTER THAN 2,000 FPM. A VSL advisory may be preventive or corrective.

### vertical takeoff and landing/VTOL

Aircraft which have performance characteristics permitting vertical or almost vertical takeoffs, landings, and climb and descent angles.

### very high frequency/VHF

The frequency band between 30 and 300 MHz. Portions of this band, 108 to 118 MHz, are used for certain NAVAIDS; 118 to 136 MHz are used for civil air/ground voice communications. Other frequencies in this band are used for purposes not related to air traffic control.



### Very High Frequency Omnidirectional Range/VOR

A ground based radio station that propagates an unlimited number of "radials". On board an aircraft, the signals are converted to visual direction indications expressed as magnetic compass courses to and from the transmitter station.

### very low frequency/VLF

A frequency band between 3 and 30 kHz.

### video gating

Electronic switching of video inputs.

### video map

An electronically displayed map on the radar display that may depict data such as airports, heliports, runway centerline extensions, hospital emergency landing areas, NAVAIDs and fixes, reporting points, airway/route centerlines, boundaries, handoff points, special use tracks, obstructions, prominent geographic features, map alignment indicators, range accuracy marks, minimum vectoring altitudes, etc.

### vidicom

A camera tube in which a charged density pattern is formed by photo-conduction and stored on that surface of the photo-conductor which is scanned by an electron beam, usually of low-velocity electrons.

### virga

Water or ice particles falling from a cloud, usually in wisps or streaks, and evaporating before reaching the ground.

### visibility

The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night. Visibility is reported as statute miles, hundreds of feet or meters.

1. flight visibility -- The average forward horizontal distance, from the cockpit of an aircraft in flight, at which prominent unlighted objects may be seen and

identified by day and prominent lighted objects may be seen and identified by night.

2. ground visibility -- Prevailing horizontal visibility near the earth's surface as reported by the U.S. National Weather Service or an accredited observer.
3. prevailing visibility -- The greatest horizontal visibility equaled or exceeded throughout at least half the horizontal circle which need not necessarily be continuous.
4. runway visibility value/RVV -- The visibility determined for a particular runway by a transmissometer. A meter provides a continuous indication of the visibility (reported in miles or fractions of miles) for the runway. RVV is used in lieu of prevailing visibility in determining minimums for a particular runway.
5. runway visual range/RVR -- An instrumentally derived value, based on standard calibrations, that represent the horizontal distance a pilot will see down the runway from the approach end. It is based on the sighting of either high intensity runway lights or on the visual contrast of other targets whichever yields the greater visual range. RVR, in contrast to prevailing or runway visibility, is based on what a pilot in a moving aircraft should see.

#### visibility, prevailing

The horizontal distance at which targets of known distance are visible over at least half of the horizon. It is normally determined by an observer on or close to the ground viewing buildings or other similar objects during the day and ordinary city lights at night. Under low visibility conditions the observations are usually made at the control tower. Visibility is REPORTED IN MILES AND FRACTIONS OF MILES in the Aviation Weather Report. If a single value does not adequately describe the visibility, additional information is reported in the "Remarks" section of the report.

#### visibility, runway

The horizontal distance at which a stationary observer near the end of the runway can see an ordinary light (about 25 candlepower) at night or a dark object against the horizon sky in the daytime. In practice the human observance is used very little for this observation. Instead, runway visibility is normally determined by a transmissometer (a

photoelectric device calibrated in terms of human observer). It is reported in miles and fractions of miles in the "Remarks" section of the Aviation Weather Report. A meter in the control tower gives the FAA traffic controller a continuous indication of the runway visibility at transmissometer locations. Runway visibility, where available, is used in place of prevailing visibility for the determination of minimums on a transmissometer runway. This program is gradually being replaced by RVR at transmissometer locations.

#### visibility, runway visual range/RVR

An instrumentally derived value, based on standard calibrations, that represents the horizontal distance a pilot will see down the runway from the approach end; it is based on the sighting of either high intensity runway lights or on the visual contrast of other targets-whichever yields the greater visual range. RVR, in contrast to prevailing or runway visibility is based on what a pilot in a moving aircraft should see looking down the runway. RVR is horizontal, and not slant, visual range. It is based on the measurement of a transmissometer made near the touchdown point of the instrument runway and is reported in hundreds of feet. RVR is used in lieu of RVV and/or prevailing visibility in determining minimums for a particular runway.

1. touchdown RVR -- The RVR visibility readout values obtained from RVR equipment serving the runway touchdown zone.
2. mid RVR -- The RVR readout values obtained from RVR equipment located mid field of the runway.
3. roll out RVR -- The RVR readout obtained from RVR equipment located nearest the roll out end of the runway.

#### visibility (ICAO)

The ability, as determined by atmospheric conditions and expressed in units of distance, to see and identify prominent unlighted objects by day and prominent lighted objects by night.

1. flight visibility (ICAO) -- The visibility forward from the cockpit of an aircraft in flight.
2. ground visibility (ICAO) -- The visibility at an aerodrome as reported by an accredited observer.

3. runway visual range/RVR (ICAO) -- The range over which the pilot of an aircraft on the center line of a runway can see the runway surface markings or the lights delineating the runway or identifying its center line.

#### visual approach

An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of an air traffic control facility and having an air traffic control authorization, may proceed to the airport of destination in VMC conditions.

#### visual approach (ICAO)

An approach by an IFR flight when either part or all of an instrument procedure is not completed and the approach is executed in visual reference to terrain.

#### Visual Approach Slope Indicator/VASI

See airport lighting.

#### visual descent point

A defined point on the final approach course of a non precision straight in approach procedure from which normal descent from the MDA to the runway touchdown point may be commenced, providing the approach threshold of the runway, or approach lights, or other markings identifiable with the approach end of that runway are clearly visible to the pilot.

#### Visual Flight Rules/VFR

(1) Rules that govern the procedures for conducting flight under visual conditions. The term "VFR" is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition it is used by pilots and controllers to indicate type of flight plan. (2) Visual flight in which avoidance of collision with other aircraft is dependent upon every pilot seeing other aircraft and avoiding them. To enable pilots to perform the collision avoidance function, the rules take certain weather conditions into account, and specify basic "rules of the air". See categories under VFR.

1. VFR aircraft/VFR flight -- An aircraft conducting flight in accordance with Visual Flight Rules.
2. VFR conditions -- Weather conditions equal to or better than the minimums for flight under visual flight rules. The term may be used as an ATC clearance/instruction

only when: an IFR aircraft requests a climb/descent in VFR conditions, the clearance will result in noise abatement benefits where part of the IFR departure route does not conform to an approved noise abatement route or altitude or when pilot has requested a practice instrument approach and is not on an IFR flight plans.

3. VFR highway -- Predesignated route/altitude path through airspace used under visual flight conditions, by aircraft having minimum equipment.
4. VFR military training routes -- Routes used by the DOD for the purpose of conducting low altitude navigation and tactical training under VFR below 10,000 feet MSL at airspeeds in excess of 250 knots IAS.

#### VFR (Visual Flight Rules) on top

ATC authorization for an IFR aircraft to operate in VFR conditions at any appropriate VFR altitude (as specified in FAR and as restricted by ATC). A pilot receiving this authorization must comply with the VFR visibility distance from cloud criteria, and the minimum IFR altitudes specified in FAR Part 91. The use of this term does not relieve controllers of their responsibility to separate aircraft in TCA/TRSA airspace.

#### VFR (Visual Flight Rules) over-the-top

With respect to the operation of aircraft, means the operation of an aircraft over-the-top under VFR when it is not being operated on an IFR flight plan.

#### VFR (Visual Flight Rules) Military Training Routes/VR

Routes used by the Department of Defense and associated Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training under VFR rules below 10,000 feet MSL at airspeeds in excess of 250 KTS IAS.

#### visual guidance

Function provided by lights, visual markers, et al., at an airport to the pilot to help guide him along a safe path to touchdown and beyond.

#### visual holding

The holding of aircraft at selected prominent geographical fixes which can be easily recognized from the air.

## Visual Meteorological Conditions/VMC

Meteorological conditions expressed in terms of visibility, distance from clouds and ceiling equal to or better than specified minima.

## visual separation

A means employed by ATC to separate aircraft in terminal areas. There are two ways to effect this separation; either the tower specialist sees the aircraft involved and issues instructions, as necessary, to ensure that the aircraft avoid each other, or a pilot sees other aircraft involved and upon instructions from the specialist provides his own separation by maneuvering his aircraft as necessary to avoid it. This may involve following another aircraft or keeping it in sight until it is no longer a factor.

## voice call

The capability of connecting to the loudspeaker of a called party, even though he is busy when called. The called party cannot reply without switching the connection to his headset.

## voice information

Information conveyed through spoken or computer generated words.

1. voice input -- Information that is input into the system by means of an operator speaking into a microphone or other similar transducer.

## voice-page hot line communications

Point-to-point landline communications, terminating in monitor speakers, so that direct voice access is available without the need for dial-up action.

## volume

The intensity or loudness of sound. In a telephone or other audio frequency circuit, a measure of the power corresponding to an audio frequency wave at that point (expressed in dB) is considered volume.

## VORTAC (VHF Omnidirectional Range/Tactical Air Navigation)

An air navigation system combining VHF omnidirectional range (VOR) and TACAN equipment. This navigational aid provides

VOR azimuth, TACAN azimuth and TACAN distance ensuring equipment/DME at one site.

1. VOT (Very High Frequency Omnitest) - A ground originating test signal used to check the accurate alignment of a VOR receiver.

#### vortex

In meteorology, any rotary flow in the atmosphere.

#### vorticity

Turning of the atmosphere. Vorticity may be imbedded in the total flow and not readily identified by a flow pattern.

1. absolute vorticity - The rotation of the Earth imparts vorticity to the atmosphere; absolute vorticity is the combined vorticity due to this rotation and vorticity due to circulation relative to the Earth (relative vorticity).
2. negative vorticity - Vorticity caused by anticyclonic turning; it is associated with downward motion of the air.
3. positive vorticity - Vorticity caused by cyclonic turning; it is associated with the upward motion of the air.
4. relative vorticity - Vorticity of the air relative to the Earth, disregarding the component of vorticity resulting from the Earth's rotation.

#### vulnerability

(1) Any weakness or flaw existing in the protective mechanism provided for an AIS, DPA or operation. (2) The relative potential within a program or function for waste, loss or other abuse.

1. vulnerability assessment -- A review of the susceptibility of a program or function to waste, loss, unauthorized use or misappropriation.

### wake turbulence

(1) Turbulence found to the rear of a solid body in motion relative to a fluid. (2) Phenomena resulting from the passage of an aircraft through the atmosphere. The term includes vortices, thrust stream turbulence, jet blast, jet wash, propeller wash and rotor wash both on the ground and in the air. (Refer to AIM)

### wall cloud

The well defined bank of vertically developed clouds having a wall like appearance which forms the outer boundary of the eye of a well developed tropical cyclone.

### warm front

Any non occluded front which moves in such a way that warmer air replaces colder air.

### warm sector

The area covered by warm air at the surface and bounded by the warm front and cold front of a wave cyclone.

### warning area

Airspace which may contain hazards to nonparticipating aircraft in international airspace. See special use airspace.

### waste oil

Any used products primarily derived from petroleum, which include, but are not limited to, fuel oils, motor oils, gear oils, cutting oils, transmission fluids, hydraulic fluids and dielectric fluids.

### water equivalent

The depth of water that would result from melting snow or ice.

### water vapor

Water in the invisible gaseous form.

### waterspout

See tornado.



### wave cyclone

A cyclone which forms and moves along a front. The circulation about the cyclone center tends to produce a wavelike deformation of the front.

### wave off

A signal from the ground controller to the pilot that the landing should be aborted. Reasons for wave off may include runway congestion or poor separation of approaching aircraft.

### waver

Written permission authorizing non-compliance with established facility/system/subsystem/equipment installation instructions, standards/tolerances/limits, maintenance procedures or maintenance schedules contained in documents issued by various levels of management.

### waypoint/W/P

(1) A significant navigational position normally not marked by the site of a radio navigational aid. When used with respect to RNAV, it is a pre-determined geographical position, used for route or instrument approach definition or progress reporting purposes, that is defined relative to a VORTAC station position. Two subsequently related waypoints defined a route segment. This predetermined geographical position can be defined by latitude and longitude and/or relative to a VORTAC or VOR/DME reference facility by magnetic radial bearing and range in nautical MILES.

1. active waypoint -- A waypoint to or from which navigational guidance is being provided. For a parallel offset, the active waypoint may or may not be at the same geographical position as the parent waypoint. When operating on the parent route, the active and parent waypoints are at the same geographical position.
2. instrument approach waypoint(s) -- position fixes which may be used in defining RNAV procedures. They include: initial approach waypoint/IAWP; intermediate waypoint/INWP; final approach waypoint/FAWP; missed approach waypoint/MAWP; runway waypoint/RWY WP; and the holding waypoint.
3. lat/long reference waypoint -- A waypoint, defined using latitude/longitude, from which routes may be

described, or from which other waypoints may be defined using range and radial. It is the point from which angle errors originate when routes are described using a course in degrees or when subsequent waypoints are defined using radials.

4. parent waypoint -- A waypoint used for route definition and/or progress reporting. The geographical position of a parent waypoint is not altered when RNAV equipment is operated in a parallel offset mode.
5. place/bearing/distance/ P/B/D -- An extemporaneously assigned waypoint (position fix) defined as a magnetic radial and distance from a fixed geographical location.
6. waypoint displacement area -- The rectangular area formed around the plotted position of a waypoint. The rectangle is oriented along the desired track with the waypoint at its center. Its dimensions are two times the appropriate plus or minus along track and cross track displacement error values.

#### WCP/Mode S transactions

A transaction is the receipt, processing and relay, (when required), of a message by the WCP.

#### wearout failure

A failure that occurs as a result of deterioration or mechanical wear and whose probability of occurrence increases with time.

#### weather

The state of the atmosphere, mainly with respect to its effects on life and human activities; refers to instantaneous conditions or short term changes as opposed to climate.

#### weather advisory

In aviation weather forecast practice, an expression of anticipated hazardous weather conditions as they affect the operation of air traffic and as prepared by the WB.

#### weather data/information

(1) Radar derived weather information and information relating to weather conditions entered into the system via controllers, FSS, etc. (2) General weather data. This could include any or all of the following : alphanumeric

weather information, such as PIREPs, forecasts, reports, etc.; and CWSU products, such as mosaicked radar data, AFOS graphics and annotated weather reports.

1. weather data annotations -- Additional weather information, such as observations of weather phenomena, that would be difficult (or expensive) to automate. This information is input by an operator, such as a tower controller.
2. weather data request -- A request for weather information such as reports, forecasts, briefings, etc.

#### weather definitions (general)

1. altimeter setting -- That pressure value to which an aircraft altimeter scale is set so that it will indicate the altitude above MSL of the altimeter in an aircraft on the ground at the location for which the value was determined.
2. atmospheric pressure -- The force exerted by the weight of the atmosphere per unit area.
3. ceiling -- The height above the earth's surface of the lowest layer of clouds or obscuring phenomena aloft that is not classified as a thin layer or partial obscuration, that together with all lower clouds or obscuring phenomena covering more than half the sky as detected from the point of observation.
4. dewpoint -- The temperature to which a given parcel of air must be cooled at constant pressure and constant water vapor content in order for saturation to occur.
5. hail -- Precipitation composed of pieces of ice generally associated with convective activity and having a diameter in excess of 0.2 inches (5 mm).
6. hazardous weather -- Weather conditions which have the potential to significantly increase the likelihood of aviation accidents. Hazardous weather conditions include: moderate to severe icing, moderate to severe turbulence, moderate to severe precipitation, wind shear, thunderstorms, sustained high winds near the surface, widespread areas of low visibility, microbursts, lightning, and hail.
7. humidity -- A measurement of the amount of water vapor in the air relative to the total possible amount the air could hold at a particular temperature. This

measurement is a percentage, with 100 percent equal to the saturation level at the current temperature.

8. lightning -- A flash of light produced by a discharge of atmospheric electricity that takes place from one cloud to another or between a cloud and the earth.
9. microburst -- A small downburst with its outburst, damaging winds extending only 4 km (2.5 miles) or less. In spite of its small horizontal scale, an intense microburst could induce damaging winds as high as 75 meters per second.
10. precipitation -- Water droplets or ice particles condensed from atmospheric water vapor and of sufficient mass to fall from the sky. This would include rain, snow, freezing rain, sleet, ice pellets, et al.
11. precipitation character -- The character of precipitation is described as either continuous, intermittent, or showery.
12. precipitation intensity -- The amount of precipitation falling at the time of the observation. Intensity is expressed as light, moderate or heavy based on the rate-of-fall or visibility.
13. precipitation type -- One of the following rain (R), freezing rain (ZR), drizzle (L), freezing drizzle (ZL), snow (S), snow pellets (SP), snow grains (SG), ice pellets (IP), hail (A), ice crystals (IC), fog (F), ground fog (GF), ice fog (IF), drifting snow, blowing snow (BS).
14. surface observation -- Report of current surface weather at an observation point at an airport. May be made up of manually observed and entered weather, automatically sensed weather, or a combination of both. This information is contained in a surface aviation weather report (SA).
15. thunderstorm -- A localized storm characterized by one or more electrical discharges.
16. turbulence -- Irregular motion of the atmosphere produced when air flows over a comparatively uneven surface, or when two currents of air flow past or over each other in different directions or at different speeds.

17. visibility -- The greatest distance at which selected objects can be seen and identified, or its equivalent derived from instrumental measurements.
18. wind shear -- A change in wind speed and/or wind direction over a given distance. Can be vertical or horizontal.
19. wind speed -- The rate of horizontal motion of the air past a given point.
20. wind direction -- The direction from which the air is moving at a given location.

#### weather information parameters

These would be input to the weather processor by the meteorologist. They would include the setting of thresholds for alarms, contouring levels for wind, temperatures, et al.

#### weather observations

The observation, measurement, and recording of various weather phenomena. This process could be manual or automatic.

#### weather terms

1. weather information -- Current weather information plus trend weather information plus forecast weather information.
2. current weather information -- Surface aviation weather observations plus weather conditions aloft.
3. surface aviation weather observations -- Observations at a single point on the ground up to an altitude of 6,000 Ft (AGL).
4. weather conditions aloft -- From 6,000 feet above the ground to 60,000 feet MSL in the area of NAS responsibility. In addition, from ground level to 10,000 feet AGL within 45 NM of qualifying aerodromes.
5. trend weather information -- Includes observations made during past 3 hours plus any forecast values from unexpired terminal forecasts.
6. forecast weather information -- Terminal forecast plus area forecast plus winds aloft forecast plus unscheduled short-term advisories and forecasts.

7. terminal forecast -- Is an area within a 5-mile radius of the runway complex.
8. area forecast -- Is a forecast of general weather conditions over an area the size of several states.
9. winds aloft forecast -- Are forecasts for specific locations in the contiguous U.S.

#### weather radar

Radar specifically designed for observing weather. See cloud detection radar and storm detection radar.

#### weather vane

See wind vane.

#### weather video digitizer/WVD

The separate weather sub-system equivalent of the weather density digitizer portion of a common digitizer.

#### wedge

See ridge.

#### weekly

A scheduling term, meaning once each calendar week, and at approximately seven-day intervals (5 to 9 days).

#### when able

When used in conjunction with ATC instructions, gives the pilot the latitude to delay compliance until a condition or event has been reconciled. Unlike "pilot discretion" when instructions are prefaced "when able" the pilot is expected to seek the first opportunity to comply. Once a maneuver has been initiated, the pilot is expected to continue until the specifications of the instruction have been met. "When able" is not used when expeditious compliance is required.

#### wet bulb temperature

The lowest temperature that can be obtained on a wet bulb thermometer in any given sample of air, by evaporation of water (or ice) from the muslin wick used to cover a thermometer; used in computing dew point and relative humidity.

wet bulb thermometer

A thermometer with a muslin covered bulb used to measure wet bulb temperature.

whirlwind

A small, rotating column of air which may be visible as a dust devil.

whisper-shout

A sequence of ATCRBS interrogations and suppressions of varying power levels transmitted by TCAS equipment to reduce the severity of synchronous interference and multipath.

wilco

I have received your message, understand it and will comply with it.

will

"Will" indicates a presumption that an action is to be taken. Will is intended to denote actions in the future tense. For example: obsolete equipment "will" be replaced as soon as funds can be made available. See shall, may.

willy-willy

A Australian term used to denote a tropical cyclone of hurricane strength.

wind

Moving air, especially a mass having a common natural and perceptible movement of air parallel to the ground. The term is generally limited to air moving horizontally or nearly so; vertical streams of air are usually called currents.

1. wind angle/WA, wind direction -- The compass direction from which the wind is blowing expressed as an angle measured clockwise from true or magnetic north.
2. wind speed/WS, wind velocity -- The rate of motion generally expressed in nautical miles (knots) or statute miles per hour.

wind rose

(1) A diagram showing the relative frequency and sometimes the average strength of the winds blowing from different

directions in a specified region; (2) A diagram showing the average relation between winds from different directions and the occurrence of other meteorological phenomena.

#### wind shear

A change in wind speed and/or direction in a short distance which results in a tearing or shearing effect. It can exist in a horizontal or vertical direction and occasionally in both.

1. wind shear alert -- An alert generated by wind shear detection equipment when wind shear is present.
2. wind shear alert transmission -- The transmission of wind shear alerts over a RF link that uses air (free space) as the communications medium.
3. wind shear data -- Wind direction and speed determined by center field sensors and sensors around the field periphery. This information is used as input to the wind.shear detection equipment and is also displayed in the TCCC.

#### wind vane

An instrument used to indicate wind direction.

#### winding

A coil of wire arranged to form an electromagnet when an electric current is in the winding.

#### window, sliding

A class of moving average, digital, detectors, which makes decisions based on the density of radar hits within some interval.

#### wing tip vortices/vortices

Circular patterns of air created when generating lift. As an airfoil moves through the atmosphere in sustained flight, an area of low pressure is created above it. The air flowing from the high pressure area to the low pressure area around and about the tip of the airfoil tends to roll up into two rapidly rotating vortices, cylindrical in shape. These vortices are the most predominant parts of aircraft wake turbulence and their rotational force is dependent upon the wing loading, gross weight, and speed of the generating aircraft. The vortices from medium to heavy aircraft can be



of extremely high velocity and hazardous to smaller aircraft.

#### winking

A visual signal interrupted 720 times a minute with an 80/20 on-off ratio.

#### wire rope

A rope, sometimes small enough to be termed twine or cord, made of twisted wires.

#### wiretapping

1. active wiretapping -- The attaching of an unauthorized device, such as a computer terminal, to a communications circuit for the purpose of obtaining access to data through the generation of false messages or control signals, or by altering the communications of legitimate users.
2. passive wiretapping -- The monitoring and/or recording of data while the data are being transmitted over a communications link.

#### word

An ordered set of characters which occupies one storage location and is treated by the computer circuits as a unit and transferred as such. Ordinarily a word is treated by the control unit as an instruction, and by the arithmetic unit as a quantity. Word lengths may be fixed or variable depending on the particular computer.

#### words twice

(1) As a request; "Communication is difficult. Please say every phrase twice." (2) As information: "Since communications are difficult, every phrase in this message will be spoken twice."

#### work factor

An estimate of the effort or time that can be expected to be expended to overcome a protective measure by a would-be penetrator with specified expertise and resources.

### work order

A description of project or task, the authorization to commence work, and the appropriation codes to which project expenses are charged.

1. work order carrier/WOC -- The regional facilities and equipment representative which has been issued a work order to accomplish specified project work.

### work sector/WSEC

A controller position; like the numbered R, D, or R, D, A, positions on the control room floor in an ARTCC. See GSEC.

### working equipment

Special tools, devices and accessories required to install, adjust or align operating equipment in performance of maintenance operations, exclusive of test equipment.

### write

- (1) To transfer information, usually from main storage, to an output device; (2) To record data in a register, location, or other storage device or medium.

### X pulse

The pulse that may appear in the seventh of the 13 information pulse positions between the bracket pulses in a radar beacon response. The X pulse position is between the A4 and B1 Pulse positions on Mode 2 or 3/A.

### x-radiation

Penetrating electromagnetic radiation which have wave lengths shorter than those of visible light and which are usually produced by bombarding a metallic target with fast electrons in a high vacuum.

yaw

The angle between the longitudinal axis and the flight path of an aircraft.

year

The period of time required for the earth to complete a single revolution around the sun.

1. apparent solar year -- The period of time between two successive passages of the mean sun through the first point of Aries. It has a mean value of 365 days 05 hours 48.47 minutes. This period contains one complete cycle of the seasons and is less than the sidereal year owing to the precession of the equinoxes.
2. sidereal year -- The period of time between two successive passages of the sun across a fixed position among the stars. Its value is constant, and is equal to 365 days 06 hours and 09 minutes, a true measure of the earth's period of orbital revolution.
3. solar mean year -- The period of time required for the earth to complete a single revolution around the sun. It has a value of 365 days, 05 hours and 49 minutes and 12 seconds of mean solar time divided into 12 months, 52 weeks and 365 or 366 (every fourth year) days.

yearly day-night average sound level/LDN

The 24-hour average sound level, in decibels, for the period from midnight to midnight, obtained after the addition of 10 decibels to sound levels for the periods between midnight and 7 a.m., and between 10 p.m. and midnight, local time, as average over a span of 1 year. LDN is the noise metric determined by the FAA, as directed by the Aviation Safety and Noise Abatement Act of 1979, to be uniformly applied in measuring the noise at airports and the areas surrounding such airports.

### zenith

The point on the celestial sphere directly above the observers position.

1. zenith distance -- The angular distance from the observers position to any point on the celestial sphere measured along the vertical circle passing through the point. It is equivalent to co-altitude, but when applied to a bodies subpoint and the observers position on earth it is expressed in nautical miles.

### zero(s)

The negative value of a binary bit.

### 0 (zero) codebar

One of nine codebars in a printer, it is used in connection with the automatic carriage return and automatic line feed functions and during conditioning operation.

### zero transmission level point/OTLP

The transmission level point (TLP) is a point in a transmission system at which the transmission level (expressed in dB) is defined as the nominal or design gain (or loss) at 1000 Hz referenced to an arbitrary point in the system called the 0 Transmission Level Point (OTLP). The OTLP (not to be confused with 0dBm) is a point chosen for engineering convenience and not an indication of signal power level. For the ARTCC the OTLP is at the equipment side of the MDE and at the RCAG the OTLP is also at the corresponding location. The OTLP is that point in a transmission system or circuit to which all other signal and noise levels are referred. Other system levels are either +dB, -dB (or equal) in magnitude to the OTLP.

### zonal wind

A west wind; the westerly component of a wind. Conventionally used to describe large scale flow that is neither cyclonic nor anticyclonic.

## APPENDIX A

### DEFINITIONS RELATED TO NAS PLANNING DOCUMENTS

#### Planning related definitions:

NAS goal. The high-level aims of the FAA Administrator to be accomplished by implementation of the NAS Plan for Facilities and Equipment and its component NAS Projects.

NAS objective. The intermediary means for achieving a NAS Goal. Achievement of NAS objectives results in benefits to NAS users.

NAS project. A level of planning and organization for NAS Programs or specific acquisitions.

#### Requirements-related definitions:

Requirement. A specified capability which must be provided by the system, sub-system, end item, contractor, et al.

Types of requirements. Categories of requirements which are useful for analysis and traceability. Types include operational, functional, performance, interface, facility, and verification requirements.

Operational requirement. Type of requirement that qualifies and quantifies the services and products which must be provided to NAS users, and NAS specialists. Operational requirements should be directly related to the NAS mission and may be impacted by a predetermined Operations Concept.

General requirement. Relates the characteristics of the operational requirement.

Functional requirement. Type of requirement that describes what the system must do to satisfy the operational requirements. A functional requirement must have an action verb and should have well defined inputs and outputs. A functional requirement is 'static' in the sense that the sequence of activity is not specified (e.g., post flight plan for controlled aircraft crossing an airspace sector boundary).

Performance requirement. Type of requirement that describes how well a function must be performed, and may be either qualitative or quantitative. In the system engineering process, performance requirements are derived from operational requirements and budgeted against the functional

requirements as part of the specification process (e.g., post flight plan 15 minutes before airspace sector boundary crossing).

Interface requirement. Type of requirement that describes the functional, performance, and/or physical characteristics of an interface between systems, facilities, sub-systems, projects, or end items or between the NAS and an external entity.

Facility requirement. Type of requirement that quantifies what the facility must provide to support the sub-systems and personnel contained within the facility (e.g., electrical power, floor loads, HVAC, lighting, et al.).

Verification requirement. Verification requirements are defined in the Quality Assurance section of requirements specifications. They consist of:

1. A definition of how the general verification methods shall be applied to specified performance, functional and interface requirements. This includes a description of test formulas, algorithms, techniques, and acceptable tolerance limits, as applicable.
2. The phase (sub-system acceptance testing, system integration testing, or site acceptance testing) during which the verification is to take place.
3. The minimum documentation necessary to describe the verification process (i.e., test plans and procedures). Verification requirements are defined in the quality assurance section of a specification. and in more detail in the test planning documents.

NAS mission. The mission of the NAS is to meet the growing and evolving national demand for aviation services while imposing a minimum of constraints on the users, promoting fuel-efficient flights and reducing system errors. The NAS will also increase the productivity of the agency work force while constraining the overall cost of operations. These advancements will result in a unified safe and efficient aviation system which contributes to national security and promotes U.S. aviation.

NAS specialist. The individual that interacts directly with the sub-systems that make up the NAS, (e.g., Air Traffic Controller Flight Service Specialist, Data System Specialist, Technician, System Engineer, Traffic Management Specialist/Coordinator, Weather Specialist, Air Traffic Supervisor, and Airway Facilities Supervisor and CWSU Meteorologist).

1. NAS user. The external individual or group that is supported by the operational services of the NAS, (e.g., Commuter Airline, Air Taxi, General Aviation, Helicopter Operator, Military Pilot and Law Enforcement Agency Fixed Base Operator).

Verification method. The general approach taken to verify the performance, functional and interface requirements. There are four basic verification methods: Test, Inspection, Analysis and Demonstration. These methods are further defined in Quality Assurance section of the NAS System Specification. Verification methods are assigned to every requirement in a Verification Requirements Traceability Matrix within the requirements specification.

#### System engineering activities-related definitions:

Design allocation. The process which maps specified functional requirements into the physical components of the system. The physical allocations for the NAS include Facilities, Sub-systems, and End Items.

Performance budgeting. The process which allocates performance requirements for a string of functional requirements in a way which will meet the quantitative operational requirements.

Requirement analysis. The process of deriving, organizing, and validating requirements in a systematic way to ensure that the requirements completely and correctly represent the needs of the NAS users.

Requirement traceability. The relationship that provides:

1. Linkage between the various levels and types of requirements (i.e., a system operational requirement traces to one or more system functional requirements);
2. Linkage from the requirements down to the design allocations made to the physical design components (i.e., operational requirement X is satisfied by ACCC and CWP);
3. Linkage from the requirements to the verification phase, methodology, procedures, and reports.

Interface analysis. The process of reviewing and defining the system interfaces to ensure that the specified interfaces are complete, consistent, and that they satisfy the operational requirements and design allocation.



Logistics support analysis. Logistics Support Analysis is an iterative process for early identification and correlation of any supportability, maintainability or reliability problems inherent to the proposed design, and identification and evaluation of resources required to develop, acquire and manage a support system for the design.

System design-related definitions:

NAS functional design. The NAS Functional Design allocates functional requirements to sub-elements and sub-systems and identifies functional interfaces. (Old name was Level 1 Design.)

NAS allocated design. NAS Allocated Design quantifies system and sub-system level performance requirements based on operational requirements. It will determine quantities and locations for each sub-system. Detailed sub-system performance requirements, interfaces and siting requirements will be defined. The primary product of the NAS Allocated Design is the NAS System Specification.

NAS transition design. Involves the planning and design activities associated with the transition of the NAS from the present system to the system specified in the NAS System Specification. (The old name for this effort was Level 3 Design.)

NAS site design. NAS Site Design will provide comprehensive site package plans for each affected site. These site implementation packages will contain all essential information needed to prepare, install, test and make operational sub-systems, equipment and software enhancements. Site specific designs will include installation, training, logistics and site test plans. (Old name was Level 4 Design.)

NAS element. One of the four major operational areas of the NAS. The four NAS elements are Air Traffic Control, Ground-to-Air, Communications, and Maintenance and Operations Support.

NAS sub-element. A grouping of sub-systems that are functionally related or collocated (e.g., Weather Sensing Facilities, Landing Facilities, Automated Flight Service Station).

NAS sub-system. A grouping of one or more end items that is a relatively independent identifiable entity. Sub-systems may track to multiple project specifications depending on the acquisition strategy (e.g., AWOS, LLWAS, RVR, NEXRAD, ILS, MLS, REIL).

NAS end item. Identifiable piece of hardware and/or software which can be bounded with a specification and interface definitions (e.g., work station, processor, display unit, et al.).

NAS facility. Throughout the distributed FAA, its technical contractors, and the SEIC many diverse definitions for facility exist. Instead of defining NAS Facility in strict terms, the various meanings of facility will be identified and defined.

Service facility. Sub-systems, personnel, and physical plant required to perform duties or satisfy an operational need.

Physical facility. The total plant required for a sub-element or sub-system to function. The physical facility will house, support or protect the sub-element or sub-system at a particular geographic location. The physical facility will have various physical characteristics in accordance with the function of the sub-element or sub-system. The physical facility can be of the following types depending on the function of the sub-element or sub-system:

1. Building - Consists of walls and a roof either single story or multi-story constructed of various material; usually fixed in location and housing personnel and equipment. The building may include air conditioning, power, et al., if required for the particular application.
2. Structure - Composed of interrelated parts which together form a structural entity, usually fixed in location containing equipment and which may be manned or unmanned. The structure may include air conditioning, power, et al., if required for the particular application.
3. Enclosure - Interrelated parts which surround or shut in equipment, fixed or movable, usually unmanned. The enclosure may include air conditioning, power, et al., if required for the particular application.
4. Assembly - Composed of interrelated parts which together form a functional entity, fixed or mobile, containing equipment.
5. Open-air plant (site) - A collection of components which can be identified only by geographic location.

Organizational facility. A grouping of personnel resources required to satisfy an operational need.

Functional facility. A grouping of material and intangible resources (e.g., software, data bases) required to satisfy an operational need.

Operational facility. A grouping of material and intangible resources employed in the actual performance of services and development of products that must be provided to NAS users.

Maintenance facility. A grouping of building, personnel, and inventory resources required in the performance of upkeep of any one or grouping of sub-systems.

NAS site. A single geographical location for one or more NAS Facilities.

Facility drawings. Depicts Physical Configuration of Physical Facility, Equipment Facility, et al.

Installation drawings. Depicts, as necessary, the Configuration to support the field installation and integration process.

Interim specifications. Will delineate the functional and performance requirements for the interim system configurations. These interim configurations define the NAS as it evolves stepwise from the present system to the 1995 system as each new sub-system is added.

Interim interface designs. Will specify, the interface requirement in ICDs or ICSs for the interim configurations which are not applicable to the final system configuration.

NAS master transition plan. Will provide the overall system-level guidance for the transition of the NAS to its final configuration. It will identify and schedule initial, interim and final system configurations and will provide guidance and direction to the individual project managers as they develop project-level transition plans.

#### System documentation-related definitions:

##### Technical documents.

1. NAS System Requirements Specification (NAS-SR-1000). This specification defines the operational requirements and is the approved operational requirements document. It serves as a basis to perform studies and analyses, identify engineering concepts to satisfy operational

requirements, and as a source document for system specification preparation.

2. NAS System Specification (NAS-SS-1000). This specification defines functional, performance, design, construction, logistics, personnel and training, documentation, verification, and interface requirements for the NAS. This specification allocates requirements to the elements, sub-elements, and sub-systems for the 1995 design of the NAS. The Specification is organized into five volumes. Volume I contains the system level requirements applicable across the entire NAS. Volumes II through V of NAS-SS-1000 contain requirements allocated to elements, sub-elements, and sub-systems. The NAS System Specification will serve as a source document for project specification preparation after it is baselined.

A (System/Segment). States the technical and mission requirements for a system/segment as an entity; allocates requirements to functional areas; documents design constraints, and defines the interfaces between or among the functional areas. It is maintained current during the demonstration and validation phase, culminating in a version that forms the future performance base for the development and production of the prime items and the configuration items.

3. NAS project specification. This specification describes the functional, performance, and interface requirements for a NAS project. It will also include validation requirements.

B (Development). Development specifications that state the requirements for the design or engineering development of a product during the development period. Each development specification shall contain sufficient detail to effectively describe the performance characteristics that each configuration item is to achieve when a developed configuration item is to evolve into a detail design for production.

C (Product). Product specifications are applicable to any configuration item below the system level, and may be oriented toward procurement of a product through specification of primarily functional (performance) requirements or primarily fabrication (detail design) requirements.

4. Level I Design Document (NAS-DD-1000). This document describes the functional architecture of the NAS for the 1995 system including allocations to sub-systems and sub-elements and functional interface definitions. The Level 1 Design Document was baselined in October 1984, and serves as the source document for development of the NAS System Specification.
5. Operations concept. Description of how the system will be operated and may include a description of operational activities, availability requirements, level of automation, man/machine interface, personnel staffing, procedural requirements, modes of operation, contingency plans, maintenance and training concept, and the operational interfaces with other systems. The content and extent of the operations concept is in the development phase.
6. Maintenance concept. This document describes how the system will be maintained. It includes all levels of maintenance and identifies maintenance approaches such as methods for detecting, isolating, and recording failures, planned or special maintenance or logistics considerations.
7. Interface control document (ICD). The ICD is a formal agreement (usually between affected contractors) which documents how interface design requirements have been fulfilled. The ICD identifies, qualifies and controls the characteristics of interfaces between a sub-system/equipment item or a subsystem and equipment item and its host facility. The purpose of the ICD is to assure interface compatibility by documenting form, fit and function required to satisfy installations, checkout and operations. The ICD will serve as a record of interface agreements and as a basis for developing coordinated design changes.
8. Interface requirements document (IRD). The IRD is a formal agreement which establishes design requirements for interfaces between sub-systems or a sub-system and its supporting facility. The purpose of an IRD is to impose interface design requirements on sub-system specifications and ICDs.

b. Planning documents (NAS).

1. NAS plan for facilities and equipment. The overall plan for improving NAS Facilities and Equipment from now to the year 2000. The Airport and Airway Improvement Act of 1982 requires an annual update of this plan.

2. NAS plan for engineering and development. The planning document describing the research, development, and engineering activities to support ongoing and planned F&E projects through the year 2000. It provides a description of the research, engineering, and development activities required to support these ongoing programs and major responsibilities of the agency; to assist the orderly integration of new systems and procedures into the NAS in support of facilities and equipment implementation; to support the agency in the development and integration of airborne systems with the operation of ground-based systems; to support regulatory functions; to support aircraft safety; to promote aviation research and development; to support airport . development, improvement, and planning; and to develop and evaluate advanced technology for application and integration into the NAS.
3. The maintenance and operations support plan. The planning document which presents the FAA's maintenance program through the year 2000, including philosophy, the maintenance concept, organization and staffing plans, and an outline of specific projects.
4. Rotorcraft master plan. The planning document which addresses all aspects of rotorcraft requirements through the year 2000 in the broad disciplines of operations, policy, research and development.

## A LISTING OF ACRONYMS AND ABBREVIATIONS

This listing of aviation related acronyms and abbreviations are commonly used, recognized or accepted within the FAA. This document is not intended to be an arbiter of the "official" definition. Rather, it is intended to be a general listing of acronyms and abbreviations related to NAS projects, system programming, to contractors' documents and terminology, and to miscellaneous topics.

Acronyms and abbreviations are listed in alphabetical order. Special characters (e.g., "/" or "&" or imbedded blanks) are ignored in the alphabetical order. Where there are multiple occurrences of an acronym or abbreviation, they are arranged according to the alphabetical order of the definitions.

Note that frequently there are similar definitions for a particular item (e.g., ALSIP: Approach Lighting System Implementation Program vs Approach Lighting System Improvement Program). In such instances, all known variations of the acronym are defined.

A	Absolute (temperature)
A	Alaskan standard time
A	Alert indicator (FDE tower data)
A	Amber (ICAO)
A	Ampere
A	Analysis
A	Approach control arrival position
A	Arctic (air mass)
A	Availability
A	developmental (Assistant) controller
A	hAil (weather reports only)
A	transmission Accepted message
AA	Absolute Altitude
AA	Aircraft Address
A/A	Air to Air (ICAO)
AA	Assigned Altitude
AAA	Advanced Automation Analysis
AAA	Airport Airspace Analysis
AAA	(or AAB, AAC...etc., in sequence) amended meteorological message (message type designator) (ICAO)
aa aa	alert code
AAACX	Automated Administrative Activities for DPCX
AAAS	Automated Airport Advisory System
AAC	Alaskan Air Command (military)
AADB	fixed Beacon test target Azimuth Deviation (parameter)
AADC	Approach And Departure Control
AADF	AAS Demonstration Facility
AADP	fixed Primary test target Azimuth Deviation (parameter)
AAF	Army Air Field
AAG	Audible Alarm Gate
AAGS	Alternate AAS Global SMMM
AAH	Assigned Altitude High
AAI	Airport Arrival Interval
AAI	Arrival Aircraft Interval
AAIS	Automated Airport Information System
AAITVL	Arrival Aircraft InTerVal
AAL	Above Aerodrome Level (ICAO)
AAL	Assigned Altitude Low
AALT	Assigned ALTitude
AAMSS	ARINC Aeronautical Mobile Satellite Service
AAP	Advanced Automation Program
AAP	Advise if Able to Proceed
AAP0	Advanced Automation Program Office
AAR	Airport Acceptance Rate
AAR	Alert Action Request
AARTE	Airport Acceptance RaTE
AARTU	Antenna Azimuth-Range-Timing Unit
AAS	Advanced Automation System
AAS	Airport Advisory Service



AASRAT	AAS Requirements Action Team
AASSS	AAS Sector Suite
AATI	ARTS III Active Transfer Interval (parameter)
AATM	Assistant Air Traffic Manager
AATM	At All Times
AATM-A	Assistant Air Traffic Manager - Administration
AATM-O	Assistant Air Traffic Manager - Operations
AATMS	Advanced Air Traffic Management System
AATS	Advanced Automation Training System
AAWF	Auxiliary Aviation Weather Facility
AAWS	Automatic Aviation Weather Service
AB	Address Branch
AB	AERA Branch
AB	AirBorne
AB	Allocation Baseline
AB	Area Branch
ABBR	ABBReviate
ABBR	ABBReviated
ABBR	ABBReviation
ABC	Assigned Beacon Code
ABCST	Automatic BroadCaST
ABCT	Active Boundary Crossing Time (parameter)
Abd	Aboard
ABDIS	Area B Data Interchange System
ABDIS	Automated service-B Data Interchange System
A-BDIS	Automated service-B Data Interchange System
ABDIS	class A interim NADIN computerized BDIS terminal at Kansas City
ABER	AirBorne Equipment Record (adaptation record)
ABL	As-Built List
ABLAST	Automated Bidders' List And Solicitation Tracking system
ABLCHG	Airborne LaunCHInG
ABLI	Attention BLinking Interval (parameter)
ABM	ABeaM (ICAO)
ABM	Asynchronous Balanced Mode
ABN	Aerodrome BeaCoN (ICAO)
ABND	ABaNDon
ABNDT	ABuNDanT
ABNML	ABNorMaL
ABR	ABBReviated Registration analysis
ABS(X)	ABSolute value of X
ABT	ABouT
ABTF	Air Blast Test Facility
ABV	ABoVe
ABV	ABoVe specified altitude
AC	Advisory Circular
AC	Air Carrier
A/C	Air Conditioning
A/C	AirCraft
A/C	Aircraft Commander
A/C	Alarm Card (NADIN)

AC	Alter Course
ac	alternating current
AC	AltoCumulus (ICAO)
A/C	Approach Control
AC	Area Coordinator
AC	Assistant Chief
AC	AutoCumulate
AC	Availability of Coverage for the subsystem
ACA	After Contract Award
ACARS	Airborne Collision Avoidance Radar System
ACARS	ARINC Communications Addressing and Reporting System
ACAS	Airborne Collision Avoidance System
ACB	Adjacent Center Backup
ACC	ACCumulator
ACC	Area Control Center
ACCAS	Alto Cumulus CATellanus
ACCC	Area Control Computer Complex
ACCDS	Air Control Computer Display
accept.	acceptance
ACCID	notification of an aircraft ACCIDent (ICAO)
ACCIS	Administrator's Correspondence Control and Information System
ACCR	AirCRAFT Conflict Resolution
ACCT	ACCounT
ACCUM	ACCUMulate
ACD	Automatic Call Director
ACD	Automatic Call Distribution
ACD	Automatic Call Distributor
ACDD	Air Carrier Domestic Departures
ACDNT	AcciDeNT
ACDO	Air Carrier District Office
ACDO	Air Carrier Domestic Overflights
ACE	Automatic Clutter Eliminator
ACELST	Adaptation output print program
ACEM	AirCRAFT Equipment Modification
Aces.	Access
ACES	Adaptation Controlled Environment Subsystem (NOSS support program)
ACEUTE	ACES dependent utility program (NOSS support program)
ACF	Advanced Communications Facility
ACF	Advanced Communications Function
ACF	Air Control Facility
ACF	Area Control Facility
ACFE	Association Checking Flight plan position Extrapolation interval (parameter)
ACFI	Advisory Committee on Flight Information
ACFO	Aircraft Certification Field Office
ACFOF	ACF Operational Function
ACFT	AirCraFT

ACHR	Aircraft CHaracteristics Record (adaptation record)
ACI	AAS Change Instrument
ACI	Allocated Configuration Identification
ACI	Azimuth Completion Indicator
ACIC	Aeronautical Charting and Information Center
ACIC	Assistant Chief-In-Charge
ACID	AirCRAFT IDentification
ACK	ACKnowledge
ACL	Altimeter Check Location (ICAO)
ACLD	Above CLouDs
ACLS	Automatic Carrier Landing System
ACLT	ACceLeraTe
ACLT	Actual Calculated Landing Time
ACM	Administrative and Control Module
ACM	Air Combat Maneuvers
ACM	Approach Control Message
ACM	Asynchronous Communications Multiplexer
ACN	Aircraft Classification Number (ICAO)
ACN	All Concerned Notified
ACN	Approval Control Number
ACNOT	ACcident NOTice
ACO	Administrative Contracting Officer
ACO	Aircraft Certification Office
ACO	Contracting Officer's technical representative (Field)
ACOD	Air Carrier Oceanic Departures
ACOO	Air Carrier Oceanic Overflights
ACOTR	Assistant COTR
ACP	ACcePtance (message type designator) (ICAO)
ACP	Airport Capacity Prediction
ACP	Area Command Post
ACP	Azimuth Change Pulse
ACP	ICAO ACcePtance message
ACPT	ACcePT
ACPT	ACcePTed (ICAO)
ACQ	ACQuisition
ACRNM	Air Carrier Name Record (adaptation record)
ACRS	ACRoSs
ACS	Advanced Computer System (now AAS)
ACSL	Alto Cumulus Standing Lenticular
ACT	ACTive
ACT	ACTivated (ICAO)
ACT	ACTivity (ICAO)
ACT	Air Combat Training (military)
ACTF	Aircraft Component Test Facility
ACTG	ACTinG
ACTS	Automated Configuration Tracking System
ACTV	ACTive
ACTV	ARTS III ACTive Count (parameter)
ACTVT	ACTiVaTe
Actvtn	Activation

ACU	Automatic Calling Unit
ACVF	AERA-2 Concept Validation Facility
ACW	Aircraft Control and Warning system
ACWP	Actual Cost of Work Performed
ACWP	Actual Cost of Work Planned
ACYC	AntiCYclonic
AD	ADdendum
AD	AeroDrome (ICAO)
AD	Air Defense (military)
AD	Air Distance
AD	Airworthiness Directive
A/D	Analog-to-Digital
A/D	Arrival Director
AD	Arrival Display (message ID)
Ada	A programming language; not an acronym
ADA	ADvisory Area (ICAO)
ADA	Azimuth Division Area
ADAM	Associate Data Access Method
ADAP	ADAPtation
ADAP	Airport Development Aid Program
ADAS	AWOS Data Acquisition System
ADC	Aerospace Defense Command
ADC	Air Defense Center
ADC	Air Defense Command
ADC	Analog-to-Digital Converter
ADC	Automatic Drift Control
ADC	Auxiliary Display Controller
ADC	Azimuth Data Converter
ADCAD	Airway Data Collection And Distribution
ADCCP	Advanced Data Communication Control Procedure
ADCDIAG	Aerospace Defense Command DIAGnostics
ADCF	Air Defense Control Facility (military)
ADCN	Administrative Data Communication Network
ADCOC	Air Defense Command Operations Control
ADCOMM	Air Defense COMMand
ADCON	ADvise all CONCerned
ADCT	Addressed Data Control Table (PVD)
ADCTR	Arrival DireCTOR
ADCUS	ADvise CUsom Service
ADD	ADdress Decoder
ADDC	Air Defense Direction Center
ADDI	ARTS III Data Drop Interval (parameter)
ADDM	Automated Documentation Development and Maintenance
ADDN	ADDition
ADDN	ADDitionAl
ADDP	A-line/D-line Distance Parameter (parameter)
ADDT	Adaptation Data Display Tool
ADF	Active Data File
ADF	Application Development Facility
ADF	Automatic Direction Finder
ADF	Auxiliary Data Function

ADFAP	Automatic Direction Finder Approach
ADFIL	Mode C Altitude Display FILTER record (adaptation record)
ADI	Add/Delete Indicator
AdI	Adjustment Increment (time)
ADIS	Automatic Data Interchange System
ADIT	Analysis & Design Interface Transforms
ADITS	Automated Design Issue Tracking System
ADIZ	Air Defense Identification Zone
ADJ	ADJacent
ADJFR	ADJacent Facilities Device (adaptation record)
ADLA	Arrival DeLaY
ADLO	Air Defense Liaison Officer (military)
ADLY	airport Arrival DeLaY
ADM	Atmospheric Data Maintenance
ADM	Auxiliary Display Monitor
ADMAP	ADvise by (air) Mail As soon as Possible
ADMIN	ADMINistration
ADMIR	ADMINistratoR
ADMIS	Aircraft Departing at (number of) Minutes Intervals
ADMISA	advise Customs and Public Health Services
ADMIV	ADMInistrative
ADNL TFC	ADditionAL TraFFic is ...
ADNOK	ADvise if Not OK
ADNOT	ADIS NOTice
ADO	Airline Dispatch Office
ADO	Airport District Office
ADP	Automated Data Processing
ADP	Automatic Data Processing
ADPCM	Adaptive Differential Pulse Code Modulation
ADPE	Automated Data Processing Equipment
ADPM	Automated Data Processing Manager
ADPOPS	Automated Data Processing Operations
ADPP	Adaptation Data Plotter Program
ADPS	Automatic Data Processing System
ADPT	ADaPTed
ADPT	ADaPTer
ADPTRT	Alternate DeParTure RouTe
Adqt	Adequate
ADR	Adapted Direct Route
ADR	ADdRess
ADR	ADvisory Route (ICAO)
ADR	Aircraft Delay Report
ADR	Alternate Departure Route
ADRDE	ADvise Reason for DElay
ADRNDCK	ADiRoNDaCK
ADRS	A Departmental Reporting System
ADRT	Alternate Departure RouTe
Ads	Address
ADS	Air Defense Sector
ADS	Applications Development System

ADS	Audio Distribution System
ADS	Automatic Dependent Surveillance
ADSAS	Air-Derived Separation Assurance System
ADSPN	Advise DiSPosition
ADTAC	Air Defense Tactical Air Command
ADTI	ARTS Departure Transfer Interval (parameter)
ADTR	Acquisition phase Demonstration & Test Requirements
ADU	Application Data Unit
ADU	Azimuth Distribution Unit
ADV	ADVise
ADVALT	ALloTment ADVice
ADVC	ADViCe
ADVCTN	ADVeCTioN
ADVM	Alert Delete Validation Mask (parameter)
ADVN	ADVaNced
ADVY	ADVisorY
ADW	Air Defense Warning
ADZ	ADVise
ADZAR	ADVise ARrival
ADZY	ADvisorY
AE	Acquisition Engineering
AE	Airport Equipment
AE	Application Entity
A&E	Architectural and Engineering
A&E	Architecture and Engineering
A/E	Architecture and Engineering
AED	Airport and Environmental Data
AEEC	Airlines Electronic Engineering Committee
AEH	Atmospheric Electrical Hazard
AEM	Aircraft and Engine Mechanic
AEM	Airport Equipment Management
AENG	Airways ENGineer
AER	Approach End Runway
AERA	Automated En Route Air traffic control
AERO	AEROnautical
AEROSAT	AEROnautical SATellite program (experimental)
AEVAC	Air EVACuation
AEW	Airborne Early Warning
AF	Advanced Functions
A/F	AirFile
AF	Air Force
AF	Airway Facilities
AF	Area Forecast
AF	Audio Frequency
AF	Flow Control Amendment information (message ID)
AFB	Air Force Base
AFC	Advanced Flow Control
AFC	Automatic Frequency Control
AFCC	Air Force Communications Command (military)
AFCMD	Air Force Contract Management Division
AFCP	Advanced Flow Communication Service

AFCS	Air Force Communications Service
AFCT	AFfeCT
AFD	Airport Facility Directory
AFD	Airway Facilities Division
AFDI	Arrival Flight plan Drop Interval (parameter)
AFDK	AFTer DarK
AFFF	Aqueous Film-Forming Foam
AFGL	Air Force Geophysical Laboratory
AFGWC	Air Force Global Weather Central
AFI	Aircraft Frequency Indicator
AFIL	Air-FILed flight plan
AFIL	FLight plan filed in the Air (ICAO)
AFIO	FAA Authorization For Intercept Operations
AFIRM	AffIRMative
AFIS	Aerodrome Flight Information Service (ICAO)
AFIS	Automatic Flight Inspection System
AFJ	Air Force Jet
AFLC	Air Force Logistics Command
AFM	AFfirM (ICAO)
AFM	Affirmative (ICAO)
AFM	that is correct (ICAO)
AFM	yes (ICAO)
AFM	Area Flow Management
AFM	Arrival Flow Management
AFMS	Automatic Flight Management System
AFNEO	Air Force NOTAM Exchange Office
AFOS	Automated FOrecasting System
AFOS	Automation of Field Operations and Services (NWS)
AFPL	APULS Failing to Poll LDN (parameter)
AFPRO	Air Force Plant Representative's Office
AFR	Air Force Regulation
AFREP	Air Force REPresentative to FAA
AFRT	Air FREight
AFS	Aeronautical Fixed Service
AFS	Airway Facilities Sector
AFS	Airway Facilities Service
AFSATCOM	Air Force SATellite COMmunications system
AFSC	Air Force Systems Command
AFSC	Airway Facilities Chief
AFSCA	AFSS Channel Assignment
AFSCF	Air Force Satellite Control Facility
AFSD	Arrival Fix Search Distance (parameter)
AFSFA	Airway Facilities Sector Field Area
AFSFO	Airway Facilities Sector Field Office
AFSFOU	Airway Facilities Sector Field Office Unit
AFSFU	Airway Facilities Sector Field Unit
AFSM	Availability of the (ACCC) Full Service Mode
AFSO	Airway Facilities Sector Office
AFSS	Automated Flight Service Station
AFSSWS	AFSS Work Station
AFT	AFTer
AFTN	Aeronautical Fixed Telecommunications Network

AG	Air Ground
A/G	Air-to-Ground
AGA	Aerodromes, air routes and Ground Aids (ICAO)
A/G/A	Air-to-Ground-to-Air
AGACS	automatic Air/Ground Air Communication System
AGC	Automatic Gain Control
AGCS	Air/Ground Communications System
AGE	Airspace Ground Equipment
A-GEAR	Arresting GEAR
AGL	Above Ground Level
AGN	AGain
AGR	AGRee
AGRMT	AGReeMenT
AGS	ACCC Global SMMM
A/H	Already Had
A/H	Alter Heading
Ah	Ampere hour
AH	Availability of the system's Hardware
AHCH	Automatic Handoff Center High (parameter)
AHCL	Automatic Handoff Center Low (parameter)
AHD	AHead
AHead	Assigned Heading
AHI	Automatic Handoff Initiation
AHIH	Automatic Handoff Initiation High (parameter)
AHIL	Automatic Handoff Initiation Low (parameter)
AHU	Air Handling Unit
AI	Action Item
AI	Amend Itinerary (message ID)
AI	Analog Input
AI	Arrival approved request for IFR flight
AI	Articulation Index
AI	Artificial Intelligence
AIA	Advise If Able
AIA	American Institute of Aeronautics
AIAA	American Institute of Aeronautics and Astronautics
AIATSC	All International Air Traffic Switching Centers
AIB	Airline B
AIC	Aeronautical Information Circular (ICAO)
AID	Aircraft ID
AID	Airport Information Desk
AIDES	Automated Interactive Design and Evaluation System
AIDS	Accident Incident Data System
AIDS	Automatic Initiation Distance Search (parameter)
AIF	Airport Improvement Fund
AIFP	Activate IFR Flight Plan
AILS	Automatic Instrument Landing System
AIM	AAS Intermediate Milestone
AIM	AIDES Interactive Metrics
AIM	Airman's Information Manual
AIMS	ATCRBS Improved Mark XII System
AIP	Aeronautical Information Publication (ICAO)
AIP	Airport Improvement Program



AIR	AFOS mnemonic for "AIRMET"
AIRAC	Aeronautical Information Regulation And Control
AIRAD	AIRman ADvisory
AIRCOMNET	Air Force COMMunications NETwork
AIRDISPOFF	AiRline DISPatch OFFice
AIREP	Air REPort (ICAO)
AIREP	Aircraft meteorological REPort
AIREP	AIR REPort
AIREP	collection of PIREPs
AIREPS	Airborne pilot REPortS
AIREQUIP	AIRport EQUIPment
AIRFL	Air ReFueling
AIRFL	Aerial ReFueling
AIRMET	AIRmen's METeorological information
AIROPNET	AIR OPerations NETwork
AIRPAC	Advisor for the Intelligent Resolution of Predicted Aircraft Conflicts
AIRROTBCON	AIRport ROTating BeaCON
AIRS	Airport Information Retrieval System
AIRTAX	AIR TAXi name record (adaptation record)
AIRTRIPS	AIR Traffic Rules Information Processing System
AIS	Aeronautical Information Service
AIS	Aeronautical Information Specialist
AIS	Aeronautical Information System
AIS	Automation Information System
AISIM	Automated Interactive Simulation Model
AITT	Automatic Track Initiation Table
AITT	discrete code initiation lead time (parameter)
AIU	Airport Interface Unit
AKCP	Alphanumeric Keyboard Parity Counter
AL	Annual Leave
AL	Approach and Landing
ALA	ALighting Area (ICAO)
ALACFO	ALL Air Carrier Field Offices
ALADLO	ALL Air Defense Liaison Officers in region
ALAFFO	ALL Airway Facilities sectors and Field Offices
ALANO	ALL Accident Notice Offices
ALARTC	ALL ARTCCs in region
ALAT	ALL Air Traffic service personnel in region
ALATAS	ALL Air Traffic Supervisors in region
ALATF	ALL Air Traffic Field Facilities
ALATFO	All Air Traffic Field Offices
ALC	Altitude at Coordination fix (FDE tower data)
ALC	Assistant Local Controller
ALCKT	ALL-Circuit message
ALCS/C	ALL AT Combined Stations/Centers in region
ALCS/T	ALL AT Combined Stations/Towers in region
ALCT	Altitude Conformance limits (parameter)
ALCT	Attempt to LoCaTe
ALD	ALarm Driver
ALDA	Air Line Dispatchers Association
ALERFA	ALERT PhAse

ALF	ALoFt
ALFAA	ALl FAA field offices and personnel
ALFAB	All FAA offices on service B
ALFSFL	ALl Flight Standards FieLd offices
ALFSS	ALl Flight Service Stations in region
ALG	Acquisition and Material Service
ALG	ALonG
ALGHNY	ALleGHenY
ALIATSC	ALl International Aeronautical Telecommunications Switching Centers
ALIFO	ALl International Field Offices
ALIFSS	ALl International Flight Service Stations in region
Alloctn	Allocation(s)
ALNMT	ALignMent
ALNOT	ALert NOTice
ALP	Airport Layout Plan
ALPA	AirLine Pilots Association
ALPH	ALtitude Position smoothing constant (parameter)
ALQDS	ALl QuaDrants
ALR	ALerTing message (ICAO)
ALRAFAC	ALl Radar Air traffic control FACilities in region
ALRGN	ALl ReGion offices
ALS	Approach Lighting System
ALSEC	ALl SEctors
ALSF	high-intensity Approach Lighting system with Sequenced Flashers
ALSF2	high-intensity Approach Lighting system with Sequenced Flashers II
ALSIP	Approach Lighting System Implementation Program
ALSIP	Approach Lighting System Improvement Program
ALS/M	Approach Lighting System/Medium intensity
ALSTR	ALtitude STRatification (adaptation record)
ALT	ALtitude
ALT	assigned ALtitude
ALT Set	ALTimeter Setting
ALTA	ALbertA
ALTI	Actual Landing Time Interval
ALTIM	ALTIMeter/weather station record (adaptation record)
ALT LIM	ALtitude LIMits
ALTM	ALTiMeter setting (FDE tower data)
ALTN	ALTerNate
ALTN	ALTerNate (aerodrome) (ICAO)
ALTN	ALTerNating (light alternates in colour) (ICAO)
ALTPT	ALTerNate airPorT
ALTR	ALTeRnate printer load capacity
ALTRV	ALtitude ReserVation
ALTRV APREQ	ALtitude ReserVation APproval REQuest
ALTRV APVL	ALtitude ReserVation APproVaL
ALTWR	ALl air traffic control ToWeRs in region
ALT X	ALtitude high/low (AHI) (parameter)

ALU	Arithmetic-Logic Unit
ALUTN	ALeUTiaN
ALWF	ActuaL Wind Factor
ALWOS	Automated Low-cost Weather Observation System
A&M	Aeronautical and Meteorological
A&M	Aeronautical and Meteorological display
A/M	Aeronautical and Meteorological display
AM	AMendment (message ID)
AM	Amplitude Modulation
AM	Ante Meridian
AM	Area Manager
A/M	Area Manager
AMA	Area Minimum Altitude (ICAO)
AMA	Assistant Manager for Automation
AM-A	Assistant Manager for Automation
AM-AP	Assistant Manager-Airspace and Procedures
AMB	Aircraft Maintenance Base
AMB	Airway Modernization Board (predecessor to NAFEC/FAATC)
AMB	AMBiguity
AMC	Army Material Command
AMCL	AMended CLearance
AMCS	Adjacent Manual Center Strip
AMD	Aeronautical and Meteorological Display
AMD	AMenD
AMD	AMenDed (message type designator; used to indicate amended meteorological message) (ICAO)
AMDAR	Aircraft Meteorological Data Relay
AMDT	AMenDment
AMDT	AMount of Delay (Time) at meter fix (parameter)
AME	Aviation Medical Examiner
AMECH	Account MECHanical
AMGR	Airport ManaGeR
AMIC	Area Manager In Charge
AMIC	Assistant Manager In Charge
AMIS	Aircraft Management Information System
AMIS	Aircraft Movement and Information Service
AMIS	Air Movement Identification Service
AMIS	MISsed datum altitude position smoothing constant (parameter)
AM-MO	Assistant Manager-Military Operations
AMOS	Automated Meteorological Observing Station
AMOS	Automated Meteorological Observing System
AMOS	Automatic Meteorological Observing System
AMP	Aircraft Management Program
AMP	AMphenol Corporation
AM-PP	Assistant Manager-Plans and Programs
AM-PS	Assistant Manager-Program Support
AMPS	ATCRBS Monopulse Processing System
AMPSS	Administrative Management and Program Support System
AM-QA	Assistant Manager-Quality Assurance

AMR	Area Management Region
AMRF	AMended Route of Flight
AMS	Aeronautical Mobile Services (ICAO)
AMS	Airspace Management System
AMS	American Meteorological Society
AMSAT	radio AMERICAN SATellite corporation
AMSL	Above Mean Sea Level (ICAO)
AMSS	Aeronautical Mobile Satellite Service
AM-T	Assistant Manager-Training
AMTI	Airborne Moving Target Indicator
AM-TM	Assistant Manager-Traffic Management
AMTM	Assistant Manager for Traffic Management
AM-TS	Assistant Manager-Technical Support
AMVER	Automated Mutual assistance VESsel Rescue system
AN	Air Navigation
AN	Airspace Index (table)
A/N	AlphaNumeric
ANF	Air Navigation Facility
ANG	Air National Guard
ANG	AlphaNumeric Generator
ANK	AlphaNumeric Keyboard
ANLYS	ANaLYsis
ANMACS	Automated Network Monitor And Control Subsystem
ANMC	Automated Network Management Control
ANME	Automated Network Management Equipment
ANMP	Account Network Management Program
ANMS	Automated Network Management System
AN/NPX-14	military beacon interrogator
ANOVA	ANalysis of VAriance
ANP	AlphaNumeric control Panel
ANRA	Air Navigation Radio Aids
ANS	Air Navigation System
ANS	American National Standard
ANS	ANSwer (ICAO)
ANSI	American National Standards Institute
ant	antenna
ANTS	Automated NAS Tracking System
AO	Administrative Officer
AOA	At Or Above
AOB	Adder Out Bus
AOB	At Or Below
AOC	Airport Operating Certificate
AOC	Aerodrome Obstacle Chart
AOCI	Airport Operators Council, Incorporated
AOCI	Airport Operators Council International
AOCP	AAS ATC Operational
AOE	Airport of Entry
AOPA	Aircraft Owners and Pilots Association
AOS	All Other Sources
AOS	Automated Observation System
AP	Acquisition Paper
AP	Acquisition Phase

AP	Acquisition Plan
A/P	Address Parity
AP	Air Position
A&P	Airframe and Powerplant
AP	AirPlot
AP	AirPort (ICAO)
AP	Airspace Probe
AP	Anomalous Propagation
AP	Application Process
AP	Assumed Position
AP	Attached Processor
AP	Automation Programmers
APA	All Points Addressable
APC	Acquisition Processing Cabinet
APC	Area Positive Control
APCB	APproach Control Boundary check constant (parameter)
APCH	APproaCH
APD	Azimuth Position Data
APDI	ARTS III Proposed Drop Interval
APE	arrival, departure, or overflight code
APG	Azimuth Pulse Generator
API	Air Position Indicator
APL	AirPort Lights
APL	Applied Physics Laboratory
APL	A Programming Language
APLAN	Active/inactive PLAN (adaptation record)
APM	Associate Program Manager
APOLLO	manufacturer of Flow Control Computer
APP	APPendix
APP	NAS APPlications software
APP	APProach control (ICAO)
APP	APProach control office (ICAO)
APP	APProach control service(ICAO)
APPA	Advise Present Position and Altitude
APPL	APPLication
APR	Agency Procurement Request
APR	Airport Program Report
APR	Automated Problem Resolution
AprCl	Approach Clearance
APREQ	APproval REQuest
APRP	APULS Poll Reroute Parameter (parameter)
APRX	APPrOXimate (ICAO)
APRX	APPrOXimately (ICAO)
APS	Acquisition and Processing Set
APS	Airborne Pulse Search radar
APS	Airspace and Procedures Specialist
APS	Airway Planning Standard
APSA	Alternate Preferential Storage Area
APSB	Sector conflict Alert Boundary (parameter)
APSE	Ada Programming Support Environment
APSG	After PaSSing

APSOW	AP phase Statement of Work
APT	AirPort
APT	AirPort table
APU	Auxiliary Power Unit
APUHS	Automatic Polling Unit, High Speed
APULS	Automatic Polling Unit, Low Speed
APV	APproVal (ICAO)
APV	APproVe (ICAO)
APV	APproVed (ICAO)
APVL	APproVaL
AQAFO	Aeronautical Quality Assurance Field Office
AQL	Acceptable Quality Level
AR	Acceptance Review
AR	Administrative Request
A&R	Alert and Resolution display
AR	Altimeter Request (message ID)
AR	As Required
AR	Atlantic Route
AR	Attribute Register
AR2	ARTS-II production system (case file designator)
ARA	Airborne Radar Approach
ARAC	Army Radar Approach Control (military)
ARAD	Altitude RADial
ARAP	Arrival Route Altitude Parameter (parameter)
ARAPPS	Advance Remote Area Precision Position System
ARB	Agency Review Board
ARB	Airport Rotating Beacon
ARB	ARTCC Boundaries (CWP)
ARB	ARTCC Boundaries (RWP)
ARBCN	AiRway BeaCoN
ARC	Airlines Reporting Corporation
ARC	Air Rescue Center
ARC	Aviation Review Committee
Arch.	Architecture
ARCO	Canadian Airspace Reservation Coordination Office
ARCOD	ARRival COOrdination fix
ARCP	Air Refueling Control Point
ARCT	Air Refueling Control Time
ARD	Alert and Resolution Display
ARD	Automatic Release Date
ARDA	first filter threshold for Azimuth Registration Deviation (parameter)
ARDB	second filter threshold for Azimuth Registration Deviation (parameter)
ARDM	ATC Resource Data Maintenance
ARDP	Arrival Route Distance Parameter (parameter)
AREP	Air Refueling Egress Point
AREST	Availability of the REST of the (ACCC) subsystem
AREX	Air Refueling EXit
ARF	Airport Reservation Function
ARF	Aviation Route Forecast
ARFIX	ARRival FIX

ARFOR	Area FORecast (ICAO)
ARIES	Airborne Receiver Interference Environmental Simulator
ARIES	Aircraft Reply and Interference Environment Simulator
ARIES	Aircraft Reply and Interrogation Environment Simulator
ARINC	Aeronautical Radio, INC. (a support contractor)
ARIP	Air Refueling Initial Point
ARL	AeRiaL
ARLD	Acceptable Run Length Deviation (primary test targets) (parameter)
ARLO	ARmy Liaison Officer
ARM	Antenna Rotation Monitor
ARM	Arrival Rate Metering
ARML	AiRMaiL
ARMS	Airport Remote Maintenance Subsystem
ARMS	Airport Remote Monitoring System
ARNG	ARraNGe (ICAO)
ARNOT	Area NOTice
ARO	Airport Reservations Office
ARO	Air traffic services Reporting Office (ICAO)
ARP	Aerodrome Reference Point (ICAO)
ARP	Air RePort (message designator) (ICAO)
ARP	Aircraft Reference Pulse
ARP	Airport Reference Point
ARP	Airport Reservations Position
ARP	Azimuth Reference Pulse
ARPA	Advanced Research Projects Agency (network)
ARPC	Air Refueling Control Point
ARPRS	Airspace Rules Processing and Reporting
ARPT	AiRPort (adaptation record)
ARQ	Automatic eRror-correction eQuipment
ARR	ARRival message (ICAO)
ARR	ARRive
ARRS	Aerospace Rescue and Recovery Service
ARS	Air Rescue Service (USAF)
ARS	Special Air Report (message type designator) (ICAO)
ARSA	Airport Radar Service Area
ARSR	Air Route Surveillance Radar
ARSR-1	Air Route Surveillance Radar, Model 1
ARSR-3	Air Route Surveillance Radar, Model 3
ARST	ARreSTing (specify part of aircraft arresting equipment) (ICAO)
ARSUP	ARea SUPervisor
ART	Automated Reasoning Tool
ARTC	Air Route Traffic Control
ARTCC	Air Route Traffic Control Center
ARTEMIS	a computerized scheduling tool (PERT, CPM)
ARTG	Azimuth Range Timing Group

ARTP	ARTS III Accept Transfer Retransmission Parameter (parameter)
ARTS	Automated Radar Terminal System (ARTS-II, ARTS-III)
ARU	Airborne Radar Unit (military)
ARUN	test message RUN length (for fixed primary test targets) (parameter)
ARUNK	ARRival UNKnown
ARVM	Alert Redetection Validation Mask (parameter)
AS	Address Space
AS	airport Advisory Service
AS	AirSpeed
AS	Altimeter data Setting (message ID)
AS	Alto-Stratus
AS	Application System
AS	Area Supervisor
AS	Automation Specialist
AS	Availability of the Software of the (ACCC) subsystem
ASA	Aircraft Separation Assurance
ASA	Automated Separation Assurance
ASAP	As Soon As Possible
ASAR	Automatic Storage And Retrieval system
ASARC	Aviation Systems Acquisition Review Committee
ASARC	Aviation Systems Acquisition Review Council
ASAT	Active Site Assignment Table
ASAT	Automated Specification and Analysis Tool
ASB	Automated System Build
ASC	Acquisition and Signal Conditioning
ASC	ADAS System Console
ASC	ASCent (ICAO)
ASC	ASCending (ICAO)
ASCC	Aeronautical Satellite Control Center
ASCII	American Standard Code for Information Interchange
ASCU	Automatic Scanning Control Unit
ASD	Aircraft Situation Display
ASD	AirSpace Docket
ASDA	Accelerate-Stop Distance Available
ASDAR	Aircraft-to-Satellite DATA Relay
ASDE	Airport Surface Detection Equipment
ASDM	AirSpace Data Management
ASE	And may Simultaneously Execute (in TDL process)
ASE	Assistant Systems Engineer
ASET	Aeronautical Services Earth Terminal
ASF	Area Support Facility
ASF	Advanced Simulation Facility
ASG	Automated Sciences Group, inc.
ASGD	ASSiGneD
ASGN	ASSiGN
ASGN	request logical device ASSiGNment (message ID)
ASHRAE	American Society of Heating, Refrigeration, and Air conditioning Engineers



ASI	AirSpeed Indicator
ASI	Altimeter Setting Indicator
ASI	Altitude Setting Indicator
ASI	Aneroid Setting Indication
ASI	Association Status Indicator
ASIC	Area Supervisor In Charge
ASIP	AirSpace flight Inspection Pilot
ASL	Above Sea Level
ASLA	Altitude Stratification Level A (parameter)
ASLB	Altitude Stratification Level B (parameter)
ASLC	Altitude Stratification Level C (parameter)
ASLT	Advanced Solid Logic Technology
ASM	Assistant Sector Manager
ASM	Auxiliary Storage Manager (service division)
ASMC	AAS System Monitor and Control
ASNA	Aviation Safety and Noise Abatement act
ASOA	Army School of the Air
ASOS	Automated Surface Observation System
ASP	AAS Sector Processing
ASP	Airport System Plan
ASP	AirSPace
ASP	Arrival Sequencing Program
ASP	Attached Support Processor
A-Spec	in AAS, the SLS for DCP (FAA-ER-130-005D)
A-Spec	system requirements Specification
ASPH	ASPHalt
ASR	Airport Surveillance Radar
ASR-4	Airport Surveillance Radar, Model 4
ASR-5	Airport Surveillance Radar, Model 5
ASR-6	Airport Surveillance Radar, Model 6
ASR-7	Airport Surveillance Radar, Model 7
ASR-8	Airport Surveillance Radar, Model 8
ASR-9	Airport Surveillance Radar, Model 9
ASR9SURV	ASR-9 SURVeillance
ASR9WTHR	ASR-9 WeaTHeR
ASR	Automated Speech Recognition
ASR	Automatic Send/Receive
AS/R	Automatic Send/Receive
ASR	Auxiliary storage Save/Restore
ASRS	Airport Surface Radar Surveillance
ASRS	Automated Scheduling and Reporting System
ASRS	Aviation Safety Reporting System
ASRVT	AAS System Requirements Validation Team
Assmt	Assessment
ASSOC	ASSOCiated
ASSS	Advanced Sector Suite System
Assy	Assembly
AST	Advanced System Technologies (a support contractor)
AST	Aggregate Statistics Tool
ASTA	Airport Surface Traffic Automation
ASTC	Airport Surface Traffic Control

ASTM	American Society for Testing and Materials
ASTRO	ASTROdynamics
ASTRO-DABS	Aeronautical Satellite-based Discrete Address Beacon System
ASU	Alarm Switchover Unit (NADIN)
ASU	Automatic ringdown
ASV	Airline Schedule Vendor
ASW	Anti-Submarine Warfare (military)
AT	Air Traffic
AT	Automatic Tracking
AT	NAS-to-ARTS message control (table)
ATA	Actual Time of Arrival
ATA	Advanced Tactical Aircraft
ATA	Airport Traffic Area
ATA	Air Traffic Assistant
ATA	Air Transport Association
ATAC	Advanced Technology Applications Corporation
ATAC	Air Traffic Assistant Chief
ATACC	Air Traffic Automation Coordinating Committee
ATACT	Air Traffic AERA Concepts Team
ATAD	ARTS III Arrival Delay
ATAF	Air Traffic/Airways Facilities
ATAG	NAS Technical Advisory Group
ATAMS	Air Traffic Administrative Management System
ATAPS	Automated Traffic Advisory and Planning System
ATAR	Above Transmitted And Received
ATARS	Advanced Tactical Air Reconnaissance System
ATARS	Automatic Traffic Advisory and Resolution Service
ATAS	Airspace and Traffic Advisory Service
ATATT	Air Traffic AAS Test Team
ATBCB	Architectural and Transportation Barriers Compliance Board
ATBM	Airway/Terminal Building Maintenance
ATC	Air Traffic Control
ATC	Air Traffic Controller
ATCA	Air Traffic Control Association
ATCAA	ATC Assigned Airspace
ATCAC	Air Traffic Control Advisory Committee
ATCBI	Air Traffic Control Beacon Interrogation
ATCC	Air TRaffic Command Center
ATCRBS	Air Traffic Control Radar Beacon System
ATCS	Air Traffic Control Specialist
ATCT	Air Traffic Control Tower
ATD	Actual Time of Departure (ICAO)
ATD	Air Traffic Division
ATD	Along-Track Distance
ATD	Associate Technical Director
ATD	regional Air Traffic Division
ATDI	ARTS Track Drop Interval (parameter)
ATDD	Air Taxi Domestic Departures
ATDO	Air Taxi Domestic Overflights
ATDO	Airways Technical District Office

ATE	Automatic Test Equipment
ATF	Advanced Tactical Fighter
ATFC	Account Traffic
ATID	Auto Track Initiated Display (parameter)
ATIP	ARTS III Transfer Initiate retransmission Parameter (parameter)
ATIS	Automatic Terminal Information Service
ATIS	Automated Terminal Information Service
ATIS	Automated Terminal Information System
ATIS	Automatic Traffic Information Service
ATLC	ATLantiC
ATM	Aircraft and Track Management
ATM	Air Traffic Manager
ATM	Area Traffic Manager
ATM	AuthenTication Maneuver
ATMCT	ATteMpt to Contact
ATMS	Advanced Text Management System
ATMSMN	Air Traffic Management System Material Need
ATO	Aeronautical Telecommunications Officer
ATO	Air Traffic operations Officer
ATO	Alternate Technical Officer
ATO	Associate Technical Officer
ATOD	Air Taxi Oceanic Departures
ATOG	Allowable TakeOff Gross weight
ATOO	Air Taxi Oceanic Overflights
ATP	Actual Time of Penetration
ATP	Alarm Termination Panel
ATP	At (Time or Place) (ICAO)
ATP	Authority To Proceed
ATP	Authorized To Proceed
ATPAC	Air Traffic Procedures Advisory Committee
ATR	Acceptance Test Review
ATR	Address Translation Register
ATR	Air Traffic Requirements
ATR	Air Transport Rating
ATRAM	Aerial TRAMway
ATRD	Acquisition phase Test Requirements Document (AAS)
ATRD	Automatic TRack initiation Dimension (parameter)
ATREP	Air Traffic REPresentative
ATRK	Along-TRack error
ATRLS	Actual Time of ReLeaSe
ATRT	Acceptance Test Review
ATRP	ARTS III Transmission Retry Parameter (parameter)
ATS	Air Traffic Service
ATSCC	Air Traffic System Command Center
ATSCCP	Air Traffic Service Contingency Command Post
ATSD	Air Traffic Situation Display
ATSI	Automatic Tracking Subcycle Interval (parameter)
AT&T	American Telephone and Telegraph
ATT	American Teletype and Telegraph
ATT	ATTachment
ATTD	Audio-Taped Time Display

ATTM	At This Time
ATTN	ATTention (ICAO)
ATTRVT	Air Traffic Transition Requirements Validation Team
ATUI	ARTS III Track Update Interval (parameter)
ATWS	Air Traffic Watch Supervisor
ATZ	Aerodrome Traffic Zone (ICAO)
AUGMTN	AUGMentation
AUGRA	Authority GRanted
AUR	Analysis Underway Report
AURBO	AURora BOREalis
AUREQ	Authority is REQuested
AURP	Analysis Under Way RePort
AUS	AUTomation Specialist
AUS/DSP	AUTomation Specialist/automation programmer
AUT	AUTomation (case file designator)
AUTO	AUTOMATIC
AUTOB	AUTOMATIC weather reporting system
AUTODIN	AUTOMATIC Data Interchange Network
AUTODIN	AUTOMated DIGital Network
AUTOMN	AUTOMation
AUTOVON	AUTOMated Voice Network
AUTOVON	AUTOMATIC Voice Network
AUTOVON	AUTOMATIC Voice switching Network
AUTOX	AUTOMATIC routing
AUTH	AUTHORIZATION
AUTH	AUTHORIZED
AUW	All Up Weight (ICAO)
AUX	AUXiliary
AUX-DC	AUXiliary Display Controller
AUZ	AUTHorize
AVANA (UTC)	ALTRV Approval Void for Aircraft Not Airborne by (time)
AVASIS	Abbreviated Visual Approach Slope Indicator System (ICAO)
AVBL	AVailaBLE (ICAO)
AVBL	AVailaBiLity (ICAO)
AVC	Automatic Volume Control
AVER	AVERage
AVFP	Activate VFR Flight Plan
AVFPNO	pilot failed to Activate VFR/DVFR Flight Plan
AVFR	ARTS VFR inhibit indicator (parameter)
AVG	AVERaGe
AVGAS	AViation GASoline
AVIU	ATIS Voice Interface Unit
AVL	Automatic Vehicle Location
AVM	Automatic Vehicle Monitoring
AVS	AViation Standards
AW	Advanced WESTAR
AWA	Advise When Able
AWACS	Airborne Warning And Control System (military)
AWANS	Aviation Weather And NOTAM System

AWAY	AirWAY route (adaptation record)
AWB	AWard fee Board
AWBE	Automatic Weather Broadcast Equipment
AWDBR	Alphanumeric Weather Data Base analysis Report
AWDS	Automated Weather Distribution System
AWE	Advise When Established
AWF	Aviation Weather Facility
AWG	American Wire Gauge
AWG	Average Wire Gauge
AWG	American Wire Guide
AWIPS-90	Advanced Weather Interactive Processing System for the 1990s
AWL	All-Weather Landing
AWN	Aviation Weather and NOTAM system (case file designator)
AWN	Aviation Weather Network
AWOL	Absent WithOut Leave
AWOP	All-Weather Operations Panel
AWOP	All-Weather Operations Plan
AWOS	Automated Weather Observation System
AWOS	Automatic Weather Observing/reporting System
AWOS	Automated Weather Observing System
AWP	Aviation Weather Processor
AWS	Air Weather Service (USAF)
AWS	Aviation Weather System
AWSS	Airborne Wind Shear System
AWT	Available Write Time
AWY	AirWaY
AXP	Adaptive cross Parity checking
AXPS	Air eXPresS
AZ	AZimuth
AZ	Flow Control arrival message (message ID)
AZ/BAZ	AZimuth/Back AZimuth
AZM	AZiMuth (ICAO)
AZRAN	AZimuth and RANge (radar)

B	Beacon (radar)
B	Beginning of precipitation
B	Bering Standard Time
B	Billion(s)
b	bit(s)
B	Block altitude indication
B	Blue (ICAO)
B	Brightness
B	Byte(s) (8 bits)
B Code	Beacon Code
BA	Balanced Asynchronous
BA	Braking Action (ICAO)
BAC	Below All Clouds
BAFO	Best And Final Offer
BAFVC	Bids Accepted for the Following VaCancies
BAL	BALance
BAL	Basic Assembly Language
BALASM	BAL ASseMbler (NOSS utility program)
BAN	Beacon AlphaNumerics
BAN	Binary ANgular measurement
BANS	BRITE AlphaNumeric Subsystem
BANS	BRITE AlphaNumeric System
BAP	Branch Analysis Program (test analysis tool)
BARA	Beacon Azimuth Range Analyzer
BARA	Beacon Azimuth Registration Analyzer
BARA	Beacon Azimuth Resolution Analysis (OS maintenance support program)
BAS	Basic AirSpeed
BASE	cloud BASE (ICAO)
BASIC	Beginners' All-purpose Symbolic Instruction Code
BASOPS	BASE OPerations (military)
BAT	Basic Air Temperature
BAT	Basic Assurance Test
BATT	BATTery
BAZ	Back AZimuth
Bb	Background brightness
BBA	flight plan data Base Analyzer subroutine (flight plan analysis subsystem)
BBD	Bi-directional Bus Driver
BBPS	Beacon phase-encoded BliPs/Scan output threshold (parameter)
BBU	Battery Backup Unit
BC	Back Course (ILS)
BC	Basic Control
BC	Beacon Code
BC	Beginning Climb
BC	Brightness Control
BC	British Columbia
BC	BroadCast
BC	Buffer Channel (NADIN)
BC	Bulk file Creation (message ID) (parameter)
BCAC	Bell Code Alarm Control

BCAG	Bell Code Alarm Gate
BCAS	Beacon Collision Avoidance System
BCD	Binary Coded Decimal
BCFC	BeaCon phase-encoded Fail Count (parameter)
BCFG	FoG patches (ICAO)
BCH	BeaCH
BCKG	BACKinG
BCM	Back Course Marker (ILS)
BCN	Backup Communications Network (Ethernet)
BCN	BeaCoN (aeronautical ground lighting) (ICAO)
BCN	BeaCoN code
BCPS	Battery Charger Power Supply
BCRD	Beacon Code Readout Distance
BCREQ	BroadCast REQuested
BCS	Backup Channel Switch
BCS	Boeing Computer Services
BCST	Beacon Code Sort (OS maintenance support program)
BCST	BroadCaST
BCT	Branch on CounT (instruction)
BCT	Boundary Crossing Time
BCTC	Buffer Content and Transmit Control register
BCTI	Buffer Content and Transmit Indicator control
BCTR	Binary CounTeR
BCW	Buffer Control Word
BCWP	Budget Cost of Work Performed
BCWP	Budget Cost of Work Planned
BCWS	Budget Cost of Work Scheduled
BD	Beginning Descent
BD	Bellamy Drift
Bd	Brightness display
BD	Bulk file Dump (message ID)
BDA	B DATA (automated service interchange system computer equipment) (case file designator)
BDA	BermuDA
BDAM	Basic Direct Access Method
BDAS	Beacon Data Acquisition Subsystem
BDAS	Beacon Data Acquisition System
BDAT	Beacon DATA (digitized)
B-DATA	Basic flight DATA
BDE	Batch Data Exchange
BDIS	automated Data Interchange System, (Service B)
BDIS	automatic Data Interchange System, (Service B)
BDIS	Service-B Data Interchange System
BDR	BoarDeR
BDRY	BounDaRY
BDS	Service B Data interchange System (operations) (case file designator)
BDSL	BiDs SoLicited
BEG	Bus Enable Gate
BEP	Back-End Processor (NADIN)
BER	Bit-Error Rate
BERC	maximum BEacon data Count (parameter)

BERP	BEacon Registration Printout
BETA	altitude change rate smoothing constant (parameter)
B&F	Budget and Finance
BF	Bulk storage Flight plan (message ID)
BFDAD	Basic Full Digital ARTS Display
BFDK	BeFore DarK
BFF	Blink Flip Flop
BFM	Basic Flight Maneuvers
BFO	Beat Frequency Oscillator
BFPC	Bulk Flight Plan Conversion
BFR	BeFoRe (ICAO)
BFTA	Beacon False Target Analysis (OS maintenance support program)
BFTA	Beacon False Target Analyzer
BGN	BeGaN
BGT	Benchmark Generation Tool
BHND	BeHiND
BI	Band Index value
B/I	Batch Interactive
BI	Batch Interactive
BI	Beacon Interrogator
BIC	BUEC Interface Circuit
BICARSA	Billing, Inventory Control, Accounts Receivable, and Sales Analysis
BID	Bulk File ID
BIFR	Before entering IFR conditions
BIL	Basic Insulation Level
BINOVC	Breaks IN OverCast
BINS	sort BIN Storage table
BINTA	Buffer INter-facility input Adapter
BINTI	Buffered INter-facility Input
BINTO	Buffered INter-facility Output
BIOCH	Byte Input/Output CHannel
BIOS	Basic Input/Output System
BIP	Beacon Input Processing
BIPIE	Beacon Input Processing External Interrupt routine
BIT	Basic Instructor Training
Bit	Binary digit
Bit	Binary integer
BIT	Built-In Test
BITE	Built-In Test Equipment
BITS	Built-In Test Sequences
BKN	BroKeN
Bksp	Backspace
B/L	BaseLine
BL	Between Layers
BL	BLank
BLC	BLanking Control
BLD	Bi-phase Level Decoder
BLD	phase I and II BuILding system (case file designator)



Bldg	Building
BLE	Bi-phase Level Encoder
BLINE	fix posting LINE (adaptation record)
BLK	BLock
BLK MPX CHAN	BLock MultiPlexor CHANnel
BLKTIM	(erroneous indication of BLKTME)
BLKTME	BuLK TiME change program (NOSS support program)
BLO	BeLoW clouds (ICAO)
BLSN	BLowing SNow (ICAO)
BLUA	Briefing/Log on Usage Analysis report
BLW	BeLoW (ICAO)
BLZD	BLiZZarD
BMx	intensity level Monitor for lights (where "x" is a value between 1 and 5)
BM	Beacon Modification
BM	Buffer Memory
BM	Bulk file amendment (Message ID)
BMAS	Business Management Accounting System
BMB	Buffer Memory Bus
BMBR	BoMBer
BMET	Business Management Evaluation Team
BMEWS	Ballistic Missile Early Warning System
BMI	Buffer Memory Interface
BMIS	MISsed datum altitude change rate smoothing constant (parameter)
BMP	Batch Message Processing
BMT	Beginning of Morning Twilight
BMS	Basic Meteorological Services
BMU	Buffer Memory Unit
BNC	Baby "N" type Connector
BND	BouND
BNDRY	BouNDaRY
BNF	Backus Naur Form
BNTH	BeNeaTH
BOD	Beneficial Occupancy Date
BOD	Building Occupancy Date
BOE	Basis Of Estimate
BOM	Bill Of Material
BOMB	BOMBing (ICAO)
BOS	Basic Operational Storage
BOT	Beginning Of Tape
BOVC	Base Of OVercast
BP	Bulk Processing (message ID)
BPA	Basic Pressure Altitude
BPAM	Basic Partitioned Access Method
BPE	Basic Programmed Extensions
BPI	Bits Per Inch
BPI	Bytes Per Inch
BPM	Break Point Module
BPM	Bulk Performance Monitor
BPOC	Before Proceeding On Course
bps	bits per second

BPS	Bits Per Second
BPS	Bytes Per Second
BPT	Beginning Procedure Turn
BPT	Bisynch Pass-Through
BR	Bahamas Route
BR	Beacon Request (message ID)
BR	BRanch
BR	mist (ICAO)
BR	Bulk flight plan Readout (message ID)
BRADS	Business Report Application Development System
BRAF	BRaking Action Fair
BRAG	BRaking Action Good
BRAN	BRaking Action Nil
BRAP	BRaking Action Poor
BRF	BRief
BRF	short (used to indicate the type of approach desired or required) (ICAO)
BRG	BeaRing (ICAO)
BRG	Baud Rate Generator
BRG	Beacon Reply Group
BRG	BeaRing
BRGHT	BRiGHT
BRITE	Bright Radar Indicator Terminal Equipment
BRITE	Bright Radar Indicator Tower Equipment
BRITE	PVD brightness record (adaptation record)
BRK	BReaK
BRKHIC	BReaKs in HIgher overCast
BRL/EEP	Bomb Release Line/End Exercise Point
BRM	BaRoMeter
BRM	Binary Rate Multiplier
BRPO	Beacon Registration PrintOut
BRR	Baud Rate control Register
BRS	Black Ribbon Shift
BRT	Bus Receive Table
BRTQC	Beacon RTQC
B/S	Bits per Second
BS	Blowing Snow
BS	commercial Broadcasting Station (ICAO)
BSAF	Bids Solicited As Follows
BSC	Binary Synchronous Communication
BSD	flight plan Sign-off and Drop interrogator subroutine (flight plan analysis subsystem)
BSF	flight plan Bulk Store File
BSFI	Bulk Store Flush Interval (parameter)
BSHP	Beginning Standard Holding Position
BSI	British Standards Institute
BSIAP	Beginning Straight-In-APproach
BSM	Basic Storage Module
BSN	Bit Sequence Number
BSOP	Blank Strip Override Parameter (parameter)
B-Spec	requirements Specification
BSRAP	Beginning Standard Range APproach

BSRO	Begin Standard Refuel Orbit
BSTF	Bulk Store Tape File
BSTR	Bell System Technical Reference
BT	British Telecom
BT	Blink Timer
BTA	Basic True Altitude
BTAM	Basic Telecommunications Access Method
BTAM-ES	BTAM-Extended Support
BTD	Beacon Target Detector
BTE	Beacon Target Extractor
BTG	BTG, Inc. (a support contractor)
BTL	Beacon Tracking Level
BTL	BeTWEEN Layers (ICAO)
BTN	BeTWEEN
BTQ	Table and Queue interrogator subroutine (flight plan analysis subsystem)
BTR	BeTteR
BTRS	Beacon Target Report Stores
BTS	Batch Terminal Simulator
BTU	British Thermal Unit
BTWN	BeTWEEN
BUEC	BackUp Emergency Communications
BUF	BUFFer
BUIC	BackUp Interceptor Control
BUL	BULletin
BUMP	dUMMy filter table
BUR	BUReau
Bus	BUSiness
BVC	Beacon Video Conditioner
BVD	Beacon Video Digitizer
BW	Beam Width
BWI	Baltimore-Washington International airport
Bx	intensity level of lights (where "x" is a value between 1 and 5)
BX	Bulk flight plan cancellation (message ID)
BX.25	a CCITT communications protocol
BY	Blowing spray
BYD	BeYonD
BYTE	eight bits
BZR	BuZzeR Celsius

C	Central standard time
C	Circling
C	Collimation
C <sup>3</sup>	Command, Control, and Communications
C	Computer program product specification
C	Conflict alert list
C	Continental
C	Coordinator
C	Critical
C	a high-level programming language
CA	ATC Advises
CA	Collision Avoidance
CA	Common Answer
CA	Conflict Alert
CA	Conflict Alert on-off (message ID)
CA	Contract Administration
CA	Contract Award
C/A	Course/Acquisition
CAA	Civil Aeronautics Administration (predecessor to the FAA)
CAAL	Collimation Azimuth Acceptance Limit (parameter)
CAAS	Computer-Aided Approach System
CAB	Civil Aeronautics Board
CAC	Change to Approach Control
CAC	Corrective Action Center
CACI	Conflict Alert IFR/VFR Mode C Intruder
CACT	Civil Air Carrier Turbojet
CAD	Central Aircraft Dispatch
CAD	Computer-Aided Design
CAD	Conflict Alert Display update subprogram (display channel outputs subsystem)
CADAM	Computer-graphics Augmented Design And Manufacturing program
CAD/CAM	Computer-Aided Design/Computer-Aided Manufacturing
CADIZ	Canadian Air Defense Identification Zone
CADM	Computer-Aided Decision Making
CADO	Chief, Airport District Office
CAED	Computer-Aided Engineering Design
CAEG	Computer-Aided Engineering Graphics
CAFB	Fixed Beacon test target Azimuth (parameter)
CAFP	Fixed Primary test target Azimuth (parameter)
CAH	Current Altitude High
CAI	Computer-Aided Instruction
CAI	Computer-Assisted Instruction
CAI	Contractor Acceptance Inspection
CAI	Cost Accounting Instruction
CAIS	Comprehensive Airman Information System
CAISD	Conflict Alert Immediate Summary Display
CAK	CRD Acknowledge Key
CAL	Current Altitude Low
Calc	Calculate
CALCOMP	a plotting device

CAM	CAChe Memory
CAM	Canadian Armed Force Transport Command
CAM	Cost Account Manager
CAMI	Civil AeroMedical Institute
CAMP	Clock AMPlifiers
CA/MSAW	Collision Alert/Minimum Safe Altitude Warning
CA/MSAW	Conflict Alert/Minimum Safe Altitude Warning
CAN	CANada
CANFORCE	CANadian Armed FORCES
CANO	Catalog Number
CANOT	CANadian NOTAM
CAO	Change of Appointing Office
CAOS	Configuration Analysis Orders Table
CAP	Civil Air Patrol
CAP	Cost Account Package
CAP	Cost Account Planning
CAP/IS	Combined Approach Control/International Station
CAPPI	Constant Altitude Plan Position Indicator
CAPR	Conflict Alert Pair Retest limit (parameter)
CAPS	Capacity Analysis and Planning System
CAPS	Cost Account Planning Sheet
CAPT	CAPTain
CAR	Conformance Assessment Report
CAR	Controller-Assisted Resolution
CARA	Check AREa Airports
CARF	Central Altitude Reservation Facility
CARF	Central Altitude Reservation Function
CARIB	CARIBbean
CARL	Collimation Range Acceptance Limit (parameter)
CARU	Canadian Airspace Reservation Unit
CAS	Calibrated Air Speed
CAS	Collision Avoidance System
CAS	Commercially Available Software
CAS	Contract Administration Services
CAS	Contract Administration Staff
CASCDS	CASCaDeS
CASE	Common Application Service Elements
CASE	Computer-Aided Software Engineering
CASFO	Civil Aviation Security Field Office
CASP	Classified Air SPeed (parameter)
CAT	CATegory
Cat-(n)	Category-(n) (ILS)
CAT	Clear-Air Turbulence
CATB	Common Active Track Buffer
CATCH	Civil Air Traffic Coordination and Handling
CATEGORY	CATEGORY recording record (adaptation record)
CATX	Climb And cross
CAUFN	Caution Advised Until Further Notice
CAVOK	Cloud And Visibility OK
CAVU	Clear And Visibility Unlimited
CAW	Channel Access Word
CAW	Channel Address Word

CAWS	Common Aviation Weather Subsystem
CB	Circuit Breaker
Cb	Cumulonimbus (cloud)
CBAS	Cost/Benefit Analysis System
CBB	Contract Budget Base
CBBS	Channel Back-to-Back Switch
CBC	PVD Beacon Code selection subprogram (track data processing subsystem)
CBFD	Fixed Beacon test target Codes (parameter)
CBI	Computer-Based Instruction
CBIL	Common Bulk Items List
CBIPO	Custom-Built Installation Process Offering
CBL	CaBL (case file designator)
CBMAM	CumulonimBUS MAMma
CBO	Congressional Budget Office
CBRT	CDC automatic aBoRT request message (SE to CDC message)
CBS	Cost Breakdown Structure
CBT	Computer-Based Training
CBU	Console BackUp
CBX	Computerized Branch eXchange
CC	Cable Closet
CC	Carbon Copy
CC	Central computer Complex supervisor
CC	Common Console
C/C	Common Console
CC	Communications Console
CC	Communications Controller
CC	Configuration Console
CC	Configuration Control
CC	Cursor Counter
CCA	Channel-to-Channel Adapter
CCA	Circuit Card Assembly
CCA	Collimation Correction Angle
CCA	Continental Control Area
CCAB	Change Control And Build
CCB	Change Control Board
CCB	Configuration Control Board
CCC	Central Computer Complex
CCC	Change and Configuration Control
CCC	Communications Control Center (regional)
CCC	Configuration and Change Control
CCC	Consolidated Central Catalog
CCCB	Contractor's Configuration Control Board
CCCH	Host Central Computer Complex
CCCI	Command, Control, Communications, and Intelligence
CCCM	Central Computer Complex Module
CCD	Change Control Decision
CCD	Change Control Division
CCD	Configuration Control Decision
CCD	Configuration Control Directive
CCD	Consolidated Cab Display

CCDC	Common Console Diagnostics/Certification
CCDE	Common Console Display Element
CCDM	Common Console Display Monitor
CCE	Common Commercial Equipment
CC/ESI	Common Console/EDARC System Interface
CCF	Channel Control Function
CCF	Comment Control Form
CCG	Check Character Generator
CCG	Contract Coordination Group
CCHHR	absolute disk address (cylinder/cylinder/head/head/record)
CCIN	Common Control Unit Interface
CCIR	Consultative Committee for International Radio
CCITT	Consultative Committee for International Telegraph and Telephone
CCITT	International Telegraphic and Telephone Consultative Committee
CCKD	Character Clock generator and Driver
CCL	Convective Condensation Level
CCLDS	Clear of CLOUDS
CCLKOB	Counter CLockwise OrBit
CCM	Communication Concentrator Module (MCCP/MMC)
CCM	Configuration Control Management
CCM	Configuration Control Monitor
CCMS	Central Control and Monitor System
CCMS	Climate Control Monitoring System
CCMS	Command, Control, and Monitoring System
CCMS	Configuration Control Management System
CCOS	Common Console Operating System
CCP	Common Console Processor
CCP	Configuration Control Plan
CCP	Contingency Command Post
CCP	Contract Change Proposal
CCPN	Certification Previous CPMI minute threshold (parameter)
CCPO	Certification Previous minute CPU threshold (parameter)
CCR	Configuration Control Register
CCRU	Complete CRew
CCRZ	Climb and CRuise
CCS	Common Console Simulator
CCSA	Common Control Switching Arrangements
CCSF	Configuration Control Support Facility
CCSS	Common Console Processor System Services (IBM CSCI 2, AAS)
CCSS	Configuration Control Subsystem
CCT	Climb Completion Time
CCTLR	Chief ConTrolLeR
CCTR	Character CounTeR
CCTS	CDRL Comment Tracking System
CCTV	Closed-Circuit TeleVision
CCU	Central Control Unit

CCU	Communication Control Unit
CCUS	Cleared CUSoms
CCV	Control Configured Vehicle
CCW	Channel Command Word
CCW	Coded Continuous Wave
CCW	Counter Clock Wise
CCW	Counter Clockwise Wrap
CCWP	Controllers' CRD Waiting Period (parameter)
CD	Civil Defense
CD	Clearance Delivery (FAA ATCT position) (see FD/CD)
CD	Clearance Directive
CD	Common Digitizer
CD	Conceptual Design
CD	Control Document
CD	Controller and Driver
CD2	dual Common Digitizer
CD-2	Common Digitizer-2
CD-2A	Common Digitizer-2A (long Range)
CD-2D	Common Digitizer-2D (short Range)
CDA	Channel Device Address
CDA	DARC update processing subprogram (inquiry processing subsystem)
CDAD	Collimation Data Azimuth Deviation (parameter)
CDAD	CRA Design Advisory Driver
CDB	Character Definition Block
CDBS	Configuration Data Base System
CDC	Call-Directing Code
CDC	Computer Display Channel
CDC	Computer Display Channel operational software
CDC	Control Data Corporation
CDCM	CDC Module
CDCMNT	CDC MainTenance program (NAS Maintenance support program)
CDCMODC	CDC MODC site parameter record (adaptation record)
CDCS	CDC Summary printout interval (parameter)
CDCS	radar Display Channel Summary printout interval (parameter)
CDD	Common Data Directory
CDE	Computer Display Element
CDE	Computer Display Equipment
CDE	Contents Directory Entry
CDFNT	Cold FroNT
CDS	Course Design Guide
CDI	Calculated Delay Interval
CDI	Calculated Delay Time
CDI	Course Deviation Indicator
CDL	Clearance Directive List
CDL	Console Data Link
CDM	Controller Display Module
CD/MAR	Common Digitizer/Minimally Attended Radar
CDMO	Configuration Data Management Operation
CDO	Communications Duty Office



CDP	Common Digitizer Processing
CDP	flight plan Data Printout subroutine (inquiry processing subsystem)
CDPROC	Common Digitizer PROCessing
CDR	Card Data Recorder
CDR	Climb/Descent Rate (in dynamic SIM flight)
CDR	Continuous Data Recording
CDR	Critical Data Recording (ARTS)
CDR	Critical Design Review
CDR	IOT final dispatcher subprogram (inquiry processing subsystem)
CDRD	Collimation Data Range Deviation (parameter)
CDRL	Contract Data Requirements List
CDRL	Contract Deliverable Requirements List
CDRL	Contractor's Data Requirements List
CD-ROM	Compact Disk Read Only Memory
CDRS	CDC Data ReSend (parameter)
CDRS	Continuous Data Recording System
CDRW	CDR software Walk-through
CDS	Central Dispatch System
CDSE	Computer-Driven Simulation Environment
CDSIM	Common Digitizer SIMulator
CDSS	minimum collimation Sample Size (parameter)
CDT	Calculated Delay Time
CDT	Channel Definition Table
CDT	Console Data Terminal
CDT	Controlled Departure Time
CDT	Customized Departure Time
CDTI	Cockpit Display of Traffic Information
CDT SMS	Console Data Terminal System Monitor Station
CDU	Control Display Unit
CDU	Coolant Distribution Unit
CE	Communications Equipment
CE	Compute Element
CE	Computing Element
CE	Customer Engineer
CEC	CENtiCycle
CEC	Common Equipment Cabinet
CECT	Computing Element Control Table
CED	Computer Entry Device
CED	Control Entry and Display
CED	Controller Entry Device
CEDD	Computer Entry/Display Device
CEDP	Computer Entry Device Parity Counter (parameter)
CEL	CENtiLane
CELNAV	CElestial NAVigation training
CEN	CENtral processor
CENPAC	CENtral PACific
CENRP	CENter Radar ARTS Presentation
CENT	CENter
CENTREX	CENTRal EXchange
CEO	Chief Executive Officer

CEP	Central East Pacific
CEP	Circular Error Probable
CEPT	Conference for European Postal and Telecommunication
CEQ	Communications general (case File designator)
CEQ	Council on Environmental Quality
CER	Climb En Route
CER	Conformance Evaluation Report
CER	Cost Estimating Relationship
CERAP	Combined Center/Radar Approach Control
CERCE	Computer Entry/Readout Common Equipment
CERE	Computer Entry/Readout Equipment
CERTIF	CERTIFication
CES	Cost Estimating System
CEST	Core ESTimation program (NOSS DR&A program)
CET	Computer Entry Tester
CET	Cumulative Elapsed Time
CEU	Compute Element Utilization
CF	Canadian Forces
CF	Center Field
CF	Central Field
CF	Central Flow
CF	Central Flow control information (message ID)
CF	Control Fanout
CF	Control Flow
CF	Coriolis Force
CF2	Central Flow Control Function
CFAD	Composite Flight Data processing
CFADC	Canadian Forces Air Defense Command
CFAF	Central Flow Automation Facility
CFAP	Cleared For Approach
CFAR	Constant False Alarm Rate
CFC	Carbon Fiber Composite
CFC	Central Flow Control
CFC	Central Flow Control subprogram (interfacility outputs subsystem)
CFCC	Central Flow Control Complex
CFCC	Central Flow Control Computer
CFCCC	Central Flow Control Computer Complex
CFCF	Central Flow Control Facility (at FAATC)
CFCF	Central Flow Control Function (at Washington Headquarters)
CFCI	Central Flow Control Interval (parameter)
CFCON	Coded CONnector Fix
CF/CRD	Category Function/Computer Readout Device
CFCS	Central Flow Control Service
CFCT	Central Flow Bulk Flight Plan Read (parameter)
CFDPS	Compact Flight Data Processing System
CFE	Contractor-Furnished Equipment
CFF	Critical Flicker Frequency
CFFS	Central Flow Function Switch (parameter)
CFIX	Coordination FIX (FDE tower data)

CFM	ConFirm
CFMWP	Central Flow Meteorological Weather Processor
CFN	ConFiNe
CFP	Cold Front Passage
CFR	Code of Federal Regulations
CFR	Crash, Fire, and Rescue
CFSA	Coordination Fix Search Altitude
CFSR	Contract Funds Status Report
CFU	Control and Format Unit
CFW	Center Field Wind
CFWP	Central Flow Weather Processor
CFWSU	Central Flow Weather Service Unit
CFY	ClariFY
CFZ	FZ builder subprogram (inquiry processing subsystem)
CG	Center of Gravity
C/G	Center of Gravity
CG	Character Generator
CG	Coast Guard
CG	Communications Gateway
CG	Composition Graph
CG	Console Group
CGA	Color Graphics Adapter
CGA	Configurable Gate Array
CGAS	Coast Guard Air Station
CGD	Computer-Generated Data
CGFF	Coarse Geographic Filter Frequency (parameter)
CGL	Circling Guidance Light(s) (ICAO)
CGLS	Coast Guard LORAN Station
CGR	Character Generator Register
CGSTN	ConGeSTion
CGW	Communications GateWay
CH	CHannel
ch	chapter
CH	Clock Head
CH	Compass Heading
CHAN	CHANnel
CHANNEL	CHANNEL address record (adaptation record)
CHAP	CHAPter
CHAR	CHARacter
CHARC	CHARaCteristic
CHC	CHanCe
CHD1	Color HeaDing 1 (parameter)
CHD2	Color HeaDing 2 (parameter)
CHG	CHAnGe
CHG	CHAnGe (modification) message (ICAO)
CHI	Cloud Height Indicator
CHI	Computer/Human Interface (see MMI)
CHIN	CHannel INterface
CHK	CHeCK
CHN	S/370 CHaNnel interface adapter
CHNL	CHaNneL

CHOP	CHangeOver Point (VOR)
CHORAS	Computer-Human Operational Requirements Analysis System
CHPID	CHannel Path IDentifier
CHRG	CHaRGe
CHSPK	CHeSaPeaKe
CHTL	Corrected Horizontal Total Luminance
CHTR	CHarTeR
C <sup>3</sup> I	Command, Control, Communications, and Intelligence
CI	Change Identification
CI	Change Itinerary (message ID)
CI	CIrrus
CI	Configuration Item
CI	Control Interface
C&I	Correlation and Interpretation processor
C&I	Correlation and Interpolation
CIA	Communications Interface Adapter
CIB	Control Interface Bus
CIC	Console Interface Circuit
CICS	Customer Information Control System
CICS/ISC	CICS/Intersystem Communications
CICS OLTD	CICS OnLine Test/Debug
CICSPARS	CICS Performance Analysis Reporting System
CICS SPM	CICS Source Program Maintenance Online
CICWG	Contractor Interface Control Working Group
CID	Commercial Item Description
CID	Computer IDentification
CID	Controlled Impact Demonstration
CIDIN	Common ICAO Data Interchange Network
CIDS	Configuration Item Development Specification
CIDS	Critical Item Development Specification
CIE	Commission Internationale de l'Eclairage (International Commission on Illumination)
CIFP	Cancel IFR Flight Plan
CIFR	Cancel IFR clearance previously given
CIFRR	Common Instrument Flight Rules Room
CIG	Ceiling
CIIN	Configuration Item Identification Number
CIL	Category Inventory List
CIL	Configuration Item List
CIM	Control Interface Module
CINCAD	Commander-IN-Chief of Aerospace Defense
CINCLANT	Commander-IN-Chief, AtlaNTic
CINCNORAD	Commander-IN-Chief, NORth american Air Defense command
CINCPAC	Commander-IN-Chief, PACific
CINCPACAF	Commander-IN-Chief, PACific Air Forces
CIP	Communications Interface Processing
CIP	Control Interfacility Processor subprogram (interfacility outputs subsystem)
CIP	Controller Interface Processor

CIPREC	Conversational and Interactive PROject Evaluation and Control
CIPS	Controller Interface Prototyping System
CIRNAV	CIRcumNAVigate
CIRVIS	Communications Instructions Reporting Vital Intelligence Sightings
CIS	Contract Information System
CIS	Cost Information System
CISD	Conflict alert Immediate Summary Display
CIT	near or over large towns (ICAO)
CITA	Controller Interaction Task Analysis
CIU	Channel Interface Unit
CIU	Common Interface Unit
CIU	Console Interface Unit
CIV	CIVil (ICAO)
CK	Check
CKCG	Clock Control Generator
CKGD	Clock Generator and Driver
CKT	Circuit
CL	Center Lighting
CL	Centre Line (ICAO)
Cl	Climb
CL	Closing Station
CL	Course Line
CLA	CLear type of ice formation (ICAO)
CLAWS	Classify, Locate, and Avoid Wind Shear
CLBR	CaLiBRation (ICAO)
CLD	CLoud
CLD	Computer Logic Design
CLG	CaLlinG
CLIN	Contract Line Item Number
CLIN	Control Line Item Number
CLK	CLockS (case File designator)
CLKOB	CLockwise OrBit
CLKWS	CLockWiSe
CLLE	Calculated Landing List Eligibility (parameter)
Clmb	Climb
CLN	CoLoN
CLNC	CLearaNCe
CLO	Contract Liaison Office
CLODA	Closing Date
CLOS	Slow Closing Speed Threshold (parameter)
CLOTO	Close This Office
CLR	CLear
CLR	CLearEd
CLR	CLearance
CLRAP	CLear As Planned
CLRNC DEL	CLearaNCe DELivery
CLS	CLoSe
CLS	CLoSing
CLSD	CLoSeD
CLST	CeLeSTial

CLT	Calculated Landing Time
CLT	Calculated Time of Arrival
CLT	Control Latch
CLU	Circuit Lineup
CLU	Common Logic Unit
cm	centimeter
CM	Communications Module
CM	Condition Maintenance
CM	Condition Monitoring
CM	Configuration Management
CM	Configuration Manager
CM	Correction Message -- TTY (message ID)
CM	Corrective Maintenance
CMA	Central Maintenance Authority
CMA	Central Memory Access
CMA	Centralized Memory Access
CMA	CoMmA
CMA	Configuration Management Administrator
CMAS	Configuration Management Automation System
CMB	Console Map Board
CMB	CLiMB (ICAO)
CMC	Communications Multiplexer Controller
CMC	Communications Multiplexer Converter
CMC/ADOC	Cheyenne Mountain Complex/Air Defense Operations Center
CMCU	Communications Module Control Unit
CMD	Configuration Management Division
CMD	hardware systems (remote Murphy Dome radar) (case file designator)
CMDB	Configuration Management Data Base
CMF	Central Maintenance Facility
CMFI	Condition Monitoring and Fault Isolation
CMG	Console Monitoring Group
CMI	Computer-Managed Instruction
CMI	Configuration Management Instruction
CMLT	Communications Microwave Link Terminal
CMM	Configuration Management Manager
CMMG	Contract Management Monitoring Group
CMN	Control Motion Noise
CMNC	CoMmeNCe
CMO	Configuration Management Office
CMO	Configuration Management Officer
CMOP	Communications Management Operating Plan
CMOS	Complementary Metal Oxide Semiconductor
CMP	Capacity Management Plan
CMP	Configuration Management Plan
CMP	Contract Management Plan
CMP	CoMParator
CMPANAL	COMPOOL ANALyzer (NOSS utility program)
CMPECT	CoMPaCT
CMPEDT	COMPOOL EDiT (NOSS utility program)
CMPL	CoMPLeTe

CMPL	CoMPLeted
CMPL	CoMPLetion
CMPLST	COMPOOL documentation (NOSS utility program)
CMPLT	CoMPLeTe
CMPLX	CoMPLeX
CMPS	CoMPress
CM/QA	Configuration Management/Quality Assurance
CMR	Cost Management Report
CMRS	Calibration Maintenance Requirements Summary
CMRS	Calibration Measurement Requirements Summary
CMS	Call Management System
CMS	Capacity Management System
CMS	Configuration Management Staff
CMS	Configuration Management System
CMS	Construction Maintenance Service
CMS	Control and Monitoring Systems (case file designator)
CMS	Conversational Management Staff
CMS	Conversational Monitor System
CMS	Cost Management System
CM/STAT	Configuration Management/Status Accounting Tool
CMT	Corrected Mean Time
CN	Change Notice
CNA	NAS-to-ARTS processor subprogram (interfacility outputs subsystem)
CNCT	Connect Non-operational elements message
CNI	Communications, Navigation, and Identification
CNI/NAV	Communications, Navigation, and Identification/NAVigation
CNL	CaNceL
CNL	CaNceLled
CNL	Circuit Net Loss
CNL	flight plan CaNceLlation message (ICAO)
CNLFP	CaNceL Flight Plan
CNLG	Celestial Navigation LeG
CNN	NAS-to-NAS processor subprogram (interfacility outputs subsystem)
CNS	Communications, Navigation, and Surveillance
CNS	CoNtinuous (ICAO)
CNS	Consolidated NOTAM System (IBM 4331)
CNSP	Consolidated NOTAM System Processor
CNT	initial Track CouNt
CNTR	CeNTeR
CNTRD	CoNTRolled
CNU	NAS-to-Non-US manual center processor subprogram (interfacility outputs subsystem)
CO	Central Office
C/O	CheckOut
CO	Commanding Officer
CO	Computer Operation
CO	Computer Operator
CO	Concept

CO	Contracting Officer
CO	suppress/request CONflict alert pair (message ID)
co-alt	co-altitude
co-dec	co-declination
co-lat	co-latitude
COAM	Customer Owned And Maintained
COAR	Contracting Officer's Administrative Representative
COB	Close Of Business
COBOL	COMmon Business-Oriented Language
COC	Climb On Course
COC	Combat Operations Center
COD	en route radar/beacon processors (case file designator)
CODASYL	Conference Of DATA SYStems Languages
CODE	beacon CODE (FDE tower data)
CODE	CONtroller Decision Evaluation
coele	contents of element in error
cofie	contents of field in error
COHO	COHerent Oscillator
COL	Certification On-Line
col.	column
COLL	COLLect
Com	Communications
COM	Computer Output Microfilm
COM	Computer Output Microfilmer
COMCO	COMmand Communication Outlet
COMDIG	COMmon DIGitizer data reduction (OS maintenance support program)
COMEDS	CONUS MEteorological Data System
COMINT	COMmand INTERpreter
COMINT	COMMunications INTelligence
COML	COMmercial
COMLO	COMpass LOCator
COMM	COMMunications
COMM PROC	COMMunication PROCessor adapter
comp	computer
comp	compass
COMP	NAS COMPool
COMPILER	COTS COMPILER
COMPOOL	COMmon POOL
COMPOOL	COMMunication POOL
COMPOOL	NAS COMMon POOL
COMSAT	COMMunications SATellite Corporation
COMSEC	COMMunications SECurity
CON	CONsoles (case file designator)
con.	continued
CONC	CONCentrator (NADIN)
CONC	CONCrete (ICAO)
CONCA	CONtinue CALLing unit
CONCTR	ConCentrator
COND	CONDition (ICAO)



CONF	CONFERence
CONFIG	CONFIGuration
CONFIG	CONFIGuration (instruction)
CONFIGN	CONFIGuration
CONFL	CONFLict
CONPT	CONTRol Point
CONSO	CONSOLAN facility
CONSOL	CONSOL beacon
CONSOL	CONSOLidation
CONSOLAN	low-or medium-frequency long-range navigation aid
CONST	CONSTant
CONST	CONSTRucted (ICAO)
CONST	CONSTRuction
CONT	CONTinental United States
CONT	CONTinue (ICAO)
CONT	CONTinued
CONT	CONTRol
CONTH	CONTinue to Hold
CONTR	CONTRact
CONTRAILS	CONDensation TRAILS
CONUS	CONterminous United States
CONUS	CONTiguous United States
CONUS	CONTinental United States
CONUS	COTermiNous United States
COOR	CO-ORDinate (ICAO)
COOR	CO-ORDination (ICAO)
COORD	COORDinate
COORDN	COORDination
COORS	COORDinator task
COP	ChangeOver Point
COP	Current Operating Plan
COP	sector OutPut control processing subprogram (flight status alerts subsystem)
COPCOM	Controllers' Operations and Procedures COMmittee
COPICS	Communications Oriented Production and Information Control System
COPT	COMpleted Procedure Turn
COR	Contracting Officer's Representative
COR	CORrect (ICAO)
COR	CORrected (corrected meteorological message) (ICAO)
COR	CORrection
CORAS	CORridor ASSignment
COREQ	CONfirming REQuisition follows
CORN	COMputer Regional Nucleus
corr	corrected
corr	correction
COS	Corporation for Open Systems
COSTM	COST Management
COSUL	COoperative SUPport Library
COT	at the COast (ICAO)
COTC	Computer Operator Terminal Console
COTR	Contracting Officer's Technical Representative

COTS	Commercial Off-The-Shelf
COV	COVer
COV	COVered (ICAO)
COV	COVering (ICAO)
CP	Card Punch
CP	Central Processor
CP	Cnange Parameter (message ID)
CP	Circular Polarization
CP	Command Post
CP	Communication Processor
CP	Computer Program
CP	Control Processor
CP	Control Program
CPA	ARTS-III (enhanced) (case file designator)
CPA	ARTS-IIIA Operational Computer Programs
CPA	Crash Phone Activated
CPAF	Cost-Plus Award Fee
CPBL	CaPaBLE
CPC	Computer Program Component
CPC	Constant Pressure Chart
CPCG	Computer Program Configuration Group
CPCI	Computer Program Configuration Item
CPD	operational Computer Programs (case file designator)
CPDP	Computer Program Development Plan
CPDS	Computer Program Development Specification
CPE	Computer Performance Engineering
CPE	Customer Provided Equipment
CPF	Complete Power Failure
CPF	Computer Program Functional specification
CPF	Control Program Facility
CPF	en route operational Computer Programs (case file designator)
CPFF	Cost Plus Fixed Fee
CPFS	Computer Program Functional Specification
CPG	Common Processor Group
CPG	Computer Programming Group
CPH	CDC/DCC functional Computer Programs (case file designator)
CPI	Central Processing Interface
CPI	Central Processor Interface
CPI	Characters Per Inch
CPI	Coherent Processing Interval
CPIF	Cost Plus Incentive Fee
CPL	Configured Parts List
CPL	Current flight PLAN message (ICAO)
CP/LIU	interface between central cluster CP and its LIU
CPM	Cards Per Minute
CPM	Central Processor Module
CPM	Central Processor Monitor
CP/M	Computer Program for Microcomputers
CPM	Control Processor Monitor

CPM	Critical Path Method
CPM	en route Maintenance Computer Program (case file designator)
CPME	Calibration and Performance Monitoring Equipment
CPMI	CPU Measurement Interval (parameter)
CPMIS	Combined Personnel Management Information System
CPN	air transport Pulse radar Navigation aid
CPN	en route Non-operational support Computer Programs (case file designator)
CPO	Chief Petty Officer
CPPG	Computer Programming Planning Group
CPPS	Computer Program Product Specification
CPQT	Control Preliminary Qualification Test
CPR	Contract Performance Report
CPR	Cost Performance Report
CPR	terminal maintenance Computer Programs (case file designator)
CPS	air transport Search radar Pulse
CPS	Characters Per Second
CPS	Common Processing Subsystem
CPS	Computer Program Specification
CPS	Constrained Position Shifting
CPS	Coordination Processing Subrouting (flight status alerts subsystem)
CPS	Cycles Per Second (replaced with Hertz - Hz)
CPS	terminal non-operational Support Computer Program (case file designator)
CPSD	Cursor Positioning/Selection Device
CP/SD	Cursor Positioning/Selection Device
CPSS	Central Processor System Service (IBM CSCI 1, AAS)
CPT	Terminal operational Computer Programs (case file designator)
CPT&E	Computer Program Test and Evaluation
CPTY	CaPaciTY
CPU	Central Processing Unit
CPU	Central Processor Unit
CPU	Central Processor Utilization
CPU	ComPUte element Utilization
CPU	Compute Power Utilization
CPU/CLU	Central Processing Unit/Common Logic Unit
CPV	Correlation Preference Value
CPVs	Correlation Preference Values
CPVS	Correlation Preference Value System
CPX	Capacity Planning eXtended
CR	ATC Requests
CR	Cancellation Ratio
CR	Card Reader
CR	Carriage Return
CR	Change Request
C/R	Command/Response
CR	Coordination Report
CR	CoRrection message -- IOT (message ID)

CRA	Conflict Resolution Advisory
CRAD	Composite RADar data processing
CRAF	Civil Reserve Air Fleet
CRAF	Conflict Resolution Advisory Function
CRAL	Collimation Range Acceptance Limit
CRAT	Configuration Requirement Availability Table
CRB	Change Review Board
CRB	Contract Review Board
CRC	Card Reader Controller
CRC	Card Reader response subroutine (inquiry processing subsystem)
CRC	check sum
CRC	CiRCle
CRC	Computed Rate of Change
CRC	Cyclic Redundancy Check
CRCF	Change Request Coordination Form
CRCHF	CRew CHief
CRCL	CiRCuLate
CRD	Computer Readout Device
CRD	Computer Readout Display
CRD-ACK	Computer Readout Device ACKnowledgment
CRDB	Central Requirements Data Base
CRDWT	R-CRD message WaitIng record (adaptation record)
CRF	Central Repair Facility
CRF	Comment Review Form
CRFB	Fixed Beacon test target Range (parameter)
CRFF	Candidate Retest Filter Frequency (parameter)
CRFP	Fixed Primary test target Range (parameter)
CRI	Code Reliability Index
CRISD	Computer Resources Integrated Support Document
CRISP	Computer Resource Integrated Support Plan
CRISP	Computer Resources Integration Support Plan
CRJ	R-CRD display and system status indicator subprogram (display channel outputs subsystem)
CRJE	Computer Remote Job Entry
CRJE	Conversational Remote Job Entry
CRL	Configuration Reference List
CR/LF	Carriage Return/Line Feed
CRMI	Computer Resources Management, Inc.
CRMM	Cost, Reliability, Maintainability, and Manufacturability
CRO	CRD altimeter and Response Output subprogram (inquiry processing subsystem)
CROS	Capacitor Read-Only Storage
CRP	Card Reader/Punch
CR/P	Card Reader/Punch
CRP	CDRL Review Plan
CRP	Compatibility Reject Processor subroutine (flight data processing subsystem)
CRR	Console Rack, Rear
CRS	Computer Reservations System (APOLLO, DATA2, PARS, SABRE, SODA)

CRS	CouRSe
CRT	Cathode-Ray Tube
CRT	Cathode Ray Tube circuit
CRTE	Coded RouTE (adaptation record)
CRTSIM	Computer Response Time SIMulator
CRTVT	Central Requirements Traceability Verification Team
CRU	Circuit Routing Unit
CRU	D-position CRD update and alert subprogram (flight status alerts subsystem)
CRZ	CRuise (ICAO)
CRZWTR	CRuise Well to Right
CS	Central Support
CS	Change Sectorization (message ID)
CS	CirroStratus
C/S	Coast/Suspend
CS	Computer Software
CS	Configuration Summary
CS	Control Segment
CS	Cost Schedule
CSA	Communication Service Authorization
CSA	Configuration Status Accounting
CSA	Cut Set Analysis
CSAR	Configuration Status Accounting Report
CSATC	Climb So As To Cross
CSATR	Climb So As To Reach
CSB	Code Select Box
CSC	Channel Switch Controller (NADIN)
CS/C	Combined Station/Center
CSC	Computer Sciences Corporation
CSC	Computer Software Component
CSC	Control System Criteria
CSC	Cost/Schedule Control
CSCI	Computer Software Configuration Item
CSCI	Computer System Configuration Item
CSCI1	central processor system services (CPSS) (IBM)
CSCI2	common console processor system services (CCSS) (IBM)
CSCI3	surveillance processing (SURV) (IBM)
CSCI4	display management (DISP) (IBM)
CSCI5	tracking and weather processing (TAWP) (IBM)
CSCI6	flight planning and processing (FPAP) (IBM)
CSCI7	prediction processing (PRED) (IBM)
CSCI8	airspace data management (ASDM) (IBM)
CSCI9	change control and build (CCAB) (IBM)
CSCI10	environment data collection (ENVF) (IBM)
CSCI11	site tailoring (SITE) (IBM)
CSCI12	hardware test and diagnostics (HWTG) (IBM)
CSCI13	simulation functions (SIMF) (IBM)
CSCI14	recording, analysis, and playback (RAAP) (IBM)
CSCI15	NAS modifications for ISSS (NASM) (IBM)
CSCI16	(deleted)

CSCI17	(deleted)
CSCI18	tower applications (TOWR) (IBM)
CSCMP	Computer Software Capacity Management Plan
C/SCS	Cost/Schedule Control System
C/SCSC	Cost/Schedule Control System Criteria
C/SCSC	Cost/Schedule Cost System Criteria
CSD	IOT priority one output subprogram (inquiry processing subsystem)
CSDM	Computer System Diagnostic Manual
CSE	Common Support Equipment
CSE	Course SElection
CSE	Course Setting Error
CSF	Central Support Facility
CSF	Cockpit Simulation Facility
CSF	strip processor subprogram (flight status alerts subsystem)
CSIS	Centralized Storm Information System
CSL	Computer Software Library
CSMA/CD	Carrier Sense Multiple Access with Collision Detection
CSMS	Computer Switching Management System
C/SMS	Cost/Schedule Management System
CSOC	Consolidated Space Operations Center (Falcon)
CSOM	Computer System Operation Manual
CSOM	Computer System Operator's Manual
CSP	COTR Support Plan
CSP	Cross System Product
CSP/AD	CSP/Application Development
CSP/AE	CSP/Application Execution
CSP/Q	CSP/Query
C/SPR	Cost/Schedule Performance Report
CSQPP	Computer Software Quality Program Plan
CSQT	CSCI Qualification Test
CSR	Cluster Sum Register (CD)
CSR	Contact Status Report
CSR	radar message IOT output subprogram (inquiry processing subsystem)
CSS	Central Site System
CSS	Common Support Station
CSS	Communications and Special Systems (CTA)
CSS	Communication Switching System
CSS	Computer Switching System
CSS	Contents Supervision Subsystem
CSS	Cross-Sectional Sensitivity
CSS	HSP control subprogram (inquiry processing subsystem)
CSSD	Central Support and Software Development
CS/SD	Central Support/System Development
CSSR	Cost and Schedule Status Report
C/SSR	Cost/Schedule Status Report
CSSR	Cost Schedule Status Reporting
CST	aircraft in CoaST

CST	Channel Status Table
CST	CoaST
CST	CoaST status
CS/T	Combined Station/Tower
CST	IOT priority three output subprogram (inquiry processing subsystem)
CSTR	ASCII Character STRing
CSU	Computer Software Unit
CSU	Customer Setup Unit
CSU	flight plan summary subroutine (inquiry processing subsystem)
CSUG	Computer Services Users' Group
CSW	Channel Status Word
CSW	Command Status Word
CT	Central Time
C/T	Class/Type
CT	Coding and unit Test
CT	Configuration Test
CT	Console Typewriter
CT	Control Timer
CT	estimated departure Clearance Time (message ID)
CTA	Calculated Time of Arrival
CTA	Computer Technology Associates, Inc.
CTA	ConTrol Area (ICAO)
CTA	Console Typewriter Adapter
CTA	ConTrol Area
CTAC	Change Tracking And Control
CTAF	Common Traffic Advisory Frequency
CTAM	Climb To And Maintain
CTAX	Climb To And cross
CTC	Center Test Coordinator
CTC	Channel-To-Channel
CTC	ConTraCt
CTC	facility Traffic Count report subroutine (inquiry processing subsystem)
CTCA	Channel-To-Channel Adapter
CTCC	Change To Center Control
CTCC	Contact Center Control
CTCEN	Contact CENTER
CTDS	COMPOOL Table Design Specification
CTI	Cross Totals unit
ctl	Control
CTL	Control Turret Lower
CTLA	ConTrol Area
CTLB	ConTrol Boundary
CTLZ	ConTrol Zone
CTN	CauTion (ICAO)
CTO	Control Tower Operator
CTOL	Conventional TakeOff and Landing
CTOR	Contractor Technical On-site Representative
CTP	Contract Training Plan
CTR	CounTeR

CTR	ContRol zone
CTRAC	Common Terminal Radar Approach Control
CTRB	CentEr Building maintenance
CTRL	ContRoL
CTS	Central Track Store
CTS	Clear To Send
CTS	Coded Time Source
CTS	Configuration Tracking System
CTSE	Coded Time Source Error
CTSEP	Coded Time Source Error Printout
CTSM	Clock Synchronization Time
CTSU	Contractor Traffic Simulation Unit
CTSW	Communications Transfer Switch
CTT	Cycle Test Time
CTU	Control Turret Upper
CTU	interfacility Track Update subprogram (interfacility outputs subsystem)
CTUE	Control Turret Upper Extension
CTY	NAS-to-TTY subprogram (interfacility outputs subsystem)
CTYPE	Console TYPEwriter output
CU	Control Unit
CU	CUmulus
CUA	Channel Unit Address
CUE	Computer Update Equipment
CUF	CUmuliForm
CUFT	CDC Unit Failure IOT Threshold (number unit failures) (parameter)
CUI	Coverage Utilization Indicator
CUPS	Consolidated Uniform Payroll System
CUSNO	CUStoms has been NOTified
CUST	CUSToms (ICAO)
CUT	Code and Unit Test
C/V	Ceiling/Visibility
CVB	Cost Versus Benefit
CVD	Controller Video Displays
CVF	Controlled Visual Flight (altitude value)
CVFP	Cancel VFR Flight Plan
CVFP	Charted Visual Flight Procedure
CVFR	Controlled Visual Flight Rules
CVG	Character Vector Generator
CVG	Comment Validation Group
CVR	Cockpit Voice Recorder
CVR	Controlled Visual Rules
CVR	Controller Visual Rules
CVS	Compiler Validation System
CVSBE	ConVert Six-Bit code to EBCDIC
CVT	Communication Vector Table
CVTL	Corrected Vertical Total Luminance
CW	ClockWise
CW	Continuous Wave (ICAO)
CWA	Central Weather Advisory



CWBS	Contract Work Breakdown Schedule
CWBS	Contract Work Breakdown Structure
CWD	Contractor Work Document
CWF	Controller Work Force
CWM	Change Weight Manifest
CWP	Central Weather Processor
CWPC	Central Weather Processing Complex
CWPWS	Central Weather Processor Work Station
CWR	Central Work Request (FAATC)
CWRC	Climb Well to Right of Course
CWSU	Center Weather Service Unit
CWSU	Central Weather Service Unit
CWTR	Climb Well To Right
CWY	ClearWaY
CWW	ClockWise Wrap
CX	Cancellation (message ID)
CX	remove strip (NAS to ARTS-III) (message ID)
CXA	Cancel approved Arrival
CXD	Cancel approved Departure
CXMP	eXternal Message Processor subprogram
CXX	Character group that signifies explicit cancellation
CY	Calendar Year
CY	Contract Year
CYC	CYClonic
CZN	Coastal Zone Management

"d"	correction to tabulated altitude for minutes of declination
D	Danger area (ICAO)
D	Data
D	Approach Control Departure Position
D	D-sounding(s) (difference between true altitude and pressure altitude)
D	Data controller
D	Demonstration
D	Departure list
D	Direction of flight (FDE tower data)
D	sector controller
D <sub>1</sub> , D <sub>2</sub> , D <sub>x</sub>	successive D readings
DA	Data Accepted (message ID)
DA	Decision Altitude (ICAO)
DA	Density Altitude
DA	Departure Approved
D/A	Digital to Analog (converter)
DA	Direct Access
DA	Drift Angle
DAAT	Duplicate Address Alert Table
DAB	Discrete Address Beacon system (case file designator)
DABS	Discrete Address Beacon System
DAC	Days After Contract award
DAC	Digital-to-Analog Converter
DAC	Direct Access radar Channel (case file designator)
DACFS	Days After Completion of Final Survey
DACM	Days After Contract Modification
DACOM	Data COMMunications
DACOM	digital Data COMMunications
DACPS	Days After Completion of Preliminary Survey
DACT	number of scans to collect Data CountS (parameter)
DACU	Device Access Control Unit
DACU	Device Attachment Control Unit
DAD	Draft ADDendum
DADC	Data Acquisition Device Controller
DAE	District Airport Engineer
DAFCS	Digital Automatic Flight Control System
DAFICS	Digital Automatic Flight and Inlet Control System
DAIR	Direct Altitude and Identification Readout
DAJP	Departure AdJUSTment Point
DALL	DARC proposal transmission switch (parameter)
DALT	Division ALTitude
DAM	Amendment Message processor subprogram (flight data processing subsystem)
DAM	Direct Access Message
DAM	Direct Access Method
DAMP	Data AMPlifier
DAOVR	Direct Access OVerride
DAP	Device Assignment Printout
DAP	Disk storage APplication subsystem

DAP	Do All Possible
DAPC	Days After Provisioning Conference
DAR	Device Assignment Request
DAR	Diagnose Accessible Register
DAR	Diagnose Address Register
DAR	Position Assignment Request message
DARC	Days After Receipt of Comments
DARC	Direct Access Radar Channel
DARC	Direct Access Radar Channel function switch (parameter)
DARCMAP	DARC data transfer (NOSS display channel support program)
DARCOM	Development And Readiness COMmand
DARP	Days After Reporting Period
DARPA	Defense Advanced Research Projects Agency
DARR	Department of the Army Regional Representative
DART	Data Analysis and Reduction Tool
DAS	Data Acquisition Subsystem
DAS	Data Acquisition System
DAS	Data Approval Sheet
DAS	Density AirSpeed
DAS	Digital Access System
DAS	Direct Access Storage
DAS	Document Accountability Sheet
DAS	terminal radar/beacon processors (case file designator)
DASA	Defense Automatic Spectral Analysis hardware
DASC	Direct Access Storage Controller
DASD	Direct Access Storage Device
DASDI	Direct Access Storage Device Initialization
DASDR	Direct Access Storage Device Recording
DASF	Direct Access Storage Facility
DASI	Days After Site Inspection
DASI	Digital Altimeter Setting Indicator
DASU	Direct Access Storage Unit
DAT	Design Analysis Tools
DAT	Dynamic Address Translation
DATC	Days After Test Completion
DAU	Data Adapter Unit
DAWN	national Digital Automatic Weather and NOTAM Network
DB	Data Base
dB	DeciBel(s)
DB	Describe
DB2	DataBase 2 (IBM program product)
DB2I	DataBase 2 Interactive (IBM program product)
DB2PRT	DataBase 2 Performance Reporting Tool (IBM program product)
DBA	Data Base Administrator
dBa	Decibel (acoustic)
DBA	Doing Business As
DBC	Days Bcfore Contract

dBc	DeciBels (in reference to the carrier level)
DBC	Discrete Beacon Code
DBC	Disk BSF Control processor subprogram (disk storage applications subsystem)
DBDA	Data Base Design Aid
DB/DC	Data Base/Data Communications
DBDD	Data Base Design Document
DBEDIT	Data Base EDIT facility (IBM program offering)
DBG	Dynamic Breaking Gate
dBi	decibel (power gain with respect to an isotropic antenna)
DBL	DouBLe
DBM	Data Base Maintenance
dBm	decibel (in reference to 1 milliwatt)
dBm0	decibel (in reference to a zero-test-level point)
DBM	Disk BSF Management processor subprogram (disk storage applications subsystem)
DBMS	Data Base Management System
DBOV	Data Base Overload Percent (parameter)
DBPF	Distance Between Posted Fixes
D-BRITE	Digital Bright Radar Indicator Tower Equipment
dBrnc	decibel (above the relative noise C-weighted channel)
DBS	Disk BSF input processor Subprogram (disk storage applications subsystem)
DBTDS	Data Base Table Design Specification
DBUF	BUFFerable program library
dBw	decibel (in reference to 1 watt)
dBw/m	decibel in watts per square meter
dBz	decibel (used to measure the reflectivity of weather echoes)
DC	Data Communications
DC	Departure Control
DC	Direct Channel (NADIN)
dc	direct current
DC	Display Channel (CDC or DCC)
DC	Display Controller
DC	display Data availability Control mode (message ID)
DC	Documentation Center
DC	Document Control
DC	Drift Correction
DC	NAS Display Channel software
DC	Washington, D.C.
DCA	Data Center Administration
DCA	Defense Communications Agency
DCA	Document Control Architecture
DCA	Drift Correction Angle
DCAA	Defense Contract Audit Agency
DCB	Disk Control Block
DCBR	Design Certification Baseline Report
DCC	ATCCC teletype address designator

DCC	Display Channel Complex (IBM 9020E)
DCC	Display Channel Complex operational software
DCC	Display Channel Computer
DCC	Document Control Center
DCCB	Deployment Configuration Control Board
DCCG	Digital Check Character Generator
DCCMNT	DCC MaInTeNance (NAS maintenance support program)
DCCSIPAR	DCC SIte PaRaMeTeR Record (adaptation record)
DCCU	Data Communications Control Unit
DCCU	Digital Communications Control Unit
DCD	Device Controller Diagnostic (ARTS II)
DCD	Digital Clock Display
DCD	Double Channel Duplex (ICAO)
DCE	Data Circuit Equipment (MODEM, network nodes, etc.)
DCE	Data Communications Equipment
DCE	Digital Communications Equipment
DCE	Display and Control Element
DCF	Deputy Chief
DCF	Document Composition Facility
DCI	Document and Configuration Index
DCKG	Data shift ClOcK Generator
DCKG	DoCKinG (ICAO)
DCL	Device Control Line
DCL	Digital Command Language
DCLRT	DeCeLeRaTe
DCM	Defense Combat Maneuver
DCM	Display Control Module
DCMS	Data Capture and Management System
Dcmt	Document
Dcmtn	Documentation
DCN	Document Change Notice
DCO	Display Channel Outputs subsystem
DCP	Change Parameter message
DCP	Decision Coordinating Paper
DCP	Design Competition Phase
DCP	Display Channel Processor
DCR	Design Change Report
DCR	Design Change Request
DCR	Document Change Request
DCRZ	Descend to and CRuise
DCS	DC Supply
DCS	Defense Communications System
DCS	Double Channel Simplex
DCSP	Display Channel Support Program software
DCT	Departure Coordination Tool
DCT	Detached Console Trainer
DCT	Detached Console Training
DCT	DireCT (ICAO)
DCTR	Divide CounTeR
DCU	Directly Connected Test Unit
DCU	Data Control Unit

DCU	Disk Controller Unit
DCU	Disk Control Unit
DCU	Display Console Unit
DCVG	Display Character and Vector Generator
DD	Defense Department
DD	Departure Delay (message ID)
D/D	Departure Director
DD	Detailed Design
DD	Digit Digit
DD	Disk Drive
DD	Display Device
DD	Display Driver
DD	Display Drives
DD	Double Drift
DD	system Design Data
DDA	Digital Differential Analyzer
DDAL	Display Data Availability List record (adaptation record)
DDAL	Display Data Availability List status printout
DDAS	Decoding Data Acquisition Subsystem
DDAS	Digital Data Acquisition Subsystem
DDBI	Drop Data Block Interval (parameter)
DDC	Display Data Control
DDC	Display Device Controller
DDCL	Domestic Distance Check List
DDCMP	Digital Data Communications Message Protocol (DEC)
DDD	Detailed Design Document
DDD	Direct Distance Dialing
dddd	beacon code shown (in FDB) differs from assigned code
DDDI	Drop Data Block Interval (parameter)
DDE	Delete/Edit message
DDF	Distance Direction Fix
DDL	Data Definition Language
DDL	Dialogue Description Language
DDM	Departure Message processing subprogram (flight data processing subsystem)
DDM	Difference in Depth of Modulation
DDM	system Design Development and Maintenance utilities
DDP	Distributed Data Processing
DDR	Detailed Design Review
DDS	Data Description Specifications
DDS	Data Design Specifications
DDT	Diagnostic Data Transceiver
DDT&E	Design, Development, Test, and Evaluation
DDU	Disk Drive Unit
DDV	Disk Data Set Verification subprogram (disk storage applications subsystem)
DE	Data Entry
DE	DeletE
DE	DEsign

DE	Device Emulation
DE	Directory Entry
DE	Display Element
DEA	Drug Enforcement Agency
DEBUG	dump classification record (adaptation record)
DEC	Data Entry Channel
DEC	Data Entry Control(s)
DEC	DECember
dec	declination
DEC	DECoder
DEC	Digital Equipment Corporation
DEC	Display Entry Control
DECCO	DEfense Commercial Communications Office
DECCO	DEfense Commercial Communications Ordering service
Decr.	Decrement
DECT	Dual Energy Computerized Tomography
DED	Data Entry Device
DED	terminal Data Entry and Display subsystem (case file designator)
DEDD	Data Entry and Display Device
DE&DD	Data Entry and Display Device
DEDG	Data Entry and Display Group
DEDS	Data Entry and Display Set
DEDS	Data Entry and Display Subsystem (ARTS III)
DEDS	Data Entry and Display System
DEDS	Data Entry Device Set
DEE	Data Entry Equipment
DEF	DEFense
DEFCON	DEFense preparedness CONdition
DEFCS	Digital Electronic Flight Control System
DEG	DEGree
DEIS	Draft Environmental Impact Statement
DEK	Data Entry Keyboard
DEK	Direct Entry Keyboard
DEK	Display Entry Keyboard
DEL	DElete
DEL	DELivery
DELPHO	DELiver by telePHone
DEM	DEMolition
DEMO	DEMONstration
DEMUX	Data MULTiplexer
DENEB	fog dispersal operations (ICAO)
DEP	DEPart (ICAO)
DEP	DEParture
DEP	DEParture message (ICAO)
DEP CON	DEParture CONTrol
DEPCIR	DEParture Coordination point
DEPDR	DEParture DirectoR
dept	departure
DeptL	Departure List
DER	Designated Engineering Representative
DES	Data Encryption Standard

DES	DEScend to (ICAO)
DES	DEScending to (ICAO)
DESC	Defense Electronics Supply Center
dest	destination
DESTN	DESTination airport (FDE tower data)
DET	Data Entry Terminal
DET	Demonstration Evaluation Team
DET	DEtachment
DETRESFA	Distress Phase code
DEU	Display Electronics Unit
DEV	DEVelopment
DEV	DEViation
dev	deviation
DEV	DEViating
DEW	Distant Early Warning line
DEWIZ	Distant Early Warning Identification Zone
DEWIZ	Distant Early Warning Zone
DF	Data Filter
DF	Direction Finder
DFA	Planned Shutdown Flight Plan Activator subprogram (flight data processing subsystem)
DFAR	Direction Finding Activity Report
DFC	Close File
DFC	Disk File Controller
DFCLT	DiFfiCuLT
DFD	Data Flow Diagram
DFD	Direction Finder Display
DFDI	Departure Flight plan Drop Interval (parameter)
DFDS	Data Facility Device Support
DFDSS	Data Facility Data Set Services
DFEF	Data Facility Extended Function
DFG	Data Filter Group
DFHSM	Data Facility Hierarchical Storage Manager
DFK	Display Filter Key
DFL	Daily Flight Log
DFM	Departure Flight Message
DFM	Departure Flow Management
DFM	Departure Flow Metering
Dfntn	Definition
DFP	Data Facility Product
DFP	Flight Plan message processing subprogram (flight data processing subsystem)
DFR	Doppler Filter Response
DFS	Direction Finder System
DFSTN	Direction Finding STation
DFT	Discrete Fourier Transform
DFTI	Distance From Touchdown Indicator (ICAO)
DG	Data General Corporation
DG	Directional Gyro
DG	Display Generator
DGAT	Data GATe
DGCGO	DanGerous CarGO



DGIO	Display Generator Input/Output
DG&M	Display Generation and Maintenance
DGU	Display Generator Unit
DH	Decision Height (Precision Approach)
DH	Desired Heading
DHEI	DEDDs Human Engineering Inventory
DHM	Hold Message processing subprogram (flight data processing subsystem)
DHMRC	DOT HQ/Modal/Regional/Center
DHP	mission flight Plan processor subprogram (flight data processing subsystem)
DI	Data Interface
DI	Decision Interface
DI	Delay Indefinite
DI	Design Issue
DI	Digital Input
DI	Display data availability control list Item (message ID)
DI	DRG Interface
DIAG	DIAGnose
DIAG	DIAGnostics
DIALSAR	Digital Interface Logistics Support Analysis Report
DIAM	DIAMeter
DICE	Direct Course Error
DID	Data Item Description
DIE	Digital Interface Equipment
DIF	DIFFerentiator
DIF	DIFFuse (ICAO)
DIF	Display Information Facility
DIF	Document Interchange Facility
DIFAX	DIGital FAcsimile
DIGIDAT	DIGital Data Acquisition and Test (Systems)
DIL	Doppler Inertial LORAN system
DIN	Direct INput
DING	Display channel down, number of alert chimes (parameter)
DI/O	Data Input/Output
DIO	Direct Input/Output
DIP	Drop and Insert Point
DIP	Dual In-line Package
Dir	Director
DIRTE	adapted DIRect RouTE (adaptation record)
DIS	Draft International Standard
DISABLE	DISABLEd
DISC	Defense Industrial Supply Center
DISC	DISConnect
DISC	DISContinued
DISC	Diversified International Sciences Corporation (SSS)
DISCO	Defense Industrial Security Clearance Office
DISD	Defense and Information Systems Division

DISEM	DISseminate
DISKCNVT	NAS DISK build function (NOSS support program)
DISKDIAG	COTS CC DISK drive DIAGnostics
DISOSS	DIStributed Office Support System
DISP	DISPlay
DISP	DISPlay management (IBM CSCI 4, AAS)
DISPLAY	NAS DISPLAY channel software
DISPOFF	airline DISPatch OFFice
DISRE	DISREgard
DIST	DISTance (ICAO)
DIST	DISTrict
DISTR	DISTRIBUTE
DIU	DARC Interface Unit
DIU	Data Interface Unit
DIV	DIVert (ICAO)
DIV	DIVerting (ICAO)
DIV	DIVision
DIVC	Altitude DIVergence Threshold (parameter)
DIWI	Depression Ignore Waiting Interval (parameter)
D/L	Data Link
DL	Design Limit
DLA	Defense Logistics Agency
DLA	DeLAY
DLA	DeLAY message (ICAO)
DLA	DeLAYed (ICAO)
DLAC	DeLAY aCCount of
DLAP	Discrete code beacon LSA Lateral Position smoothing constant (parameter)
DLAT	DeLAY Time
DLAV	Discrete code beacon LSA Lateral Velocity smoothing constant (parameter)
DLC	Delay Clearance
DLEI	Departure List Eligibility Interval (parameter)
DLF	Document Library Facility
DL/I	Data Language/One
DLM	Depot-Level Maintenance
DLMP	Data Link Master Plan
DLOG	CDC Data LOG reduction program (NOSS DR&A program)
DLOP	Discrete code beacon LSA Longitudinal Position smoothing constant (parameter)
DLOV	Discrete code beacon LSA Longitudinal Velocity smoothing constant (parameter)
DLP	Data Link Processor
DLPF	LSA Primary Datum Forward Longitudinal dimension (parameter)
DLPR	LSA Primary Datum backward Longitudinal dimension (parameter)
DLS	Dedicated Line Service
DLSC	Defense Logistics Supply Command
DLSF	LSA Slow primary datum Forward Longitudinal dimension (parameter)

DLSR	LSA Slow primary datum backward Longitudinal dimension (parameter)
DLVY	DeLiVerY delay
DM	Data Management
DM	Departure Message (message ID)
DM	Diagnostic Monitor
DM	Disconnect Mode
DM	selected beacon Code DCC Addressing (Table)
DMA	Data Management Administrator
DMA	Defense Mapping Agency
DMA	Direct Memory Access
DMAAC	Defense Mapping Agency Aerospace Center
DMAHC	Defense Mapping Agency Hydrographic Center
DMAHTC	Defense Mapping Agency Hydrographic Topographic Center
DMANMS	Data Multiplex Automatic Network Management Subsystem
DMAS	Distributed Management Accounting System
DMB	Dynamic Memory Board
DMC	Direction Memory Circuit
DMCA	Disestablish Mode C Altitude
DMC/TL	Data Management Center/Technical Library
DME	Data Multiplex Equipment
DME	Distance Measuring Equipment
DME/N	Distance Measuring Equipment/Narrow spectrum
DME/P	Distance Measuring Equipment/Precision
DME-P	Distance Measuring Equipment - Precision
DMG	DaMaGe
DMG	Display Monitor Group
DMI	Dual Message Interface
DMIO	DM Input/Output Table
DMN	Data Multiplexer Network
DMO	Data Management Office
DMO	Directives Management Offices (FAA)
DMO	DeMONstration
DMP	Data Management Plan
DMS	Departure Metering and Sequencing
DMS	Development Management System
DMS	Distribution Management System
DMSA	Designated Major System Acquisition
DMSP	Defense Meteorological Satellite Program
DMSR	Direct Memory Sequence Resolver
DMSS	Display Mode Select and Status
DMUX	Data MULTipleXer
DMWI	Display Message Waiting Interval (parameter)
DN	Day Number
DNA	Defense Nuclear Agency
DNF	Direct to Next Fix
DNG	DaNGer (ICAO)
DNG	DaNGerous (ICAO)
DNIC	Data Network Identification Code
DNP	Do Not Process

DO	Deputy commander for Operations
DO	Deputy of Operations, NORAD Region
DO	Digital Output
DO	Ditto
DOC	AF internal directives (case file designator)
DOC	Department of Commerce
DOC	DOCument
DOC	DOCumentation
DOC	DOCument generation
DOCCON	DOCumentation and CONfiguration Identification System
DOD	Department Of Defense
DODISS	DOD Index of Specifications and Standards
DOD-STD	Department Of Defense STandard
DOE	Department Of Energy
DOI	Department Of Interior
DOLLY	data link
DOM	DOMestic (ICAO)
DOPDF	DOPpler Direction Finder
DOPI	Domestic Oceanic Print Interval (parameter)
DOS	Disk Operating System
DOSF	Distributed Office Support Facility
DOSS	Defense Operational Support Subsystem
DOS/VS	DOS/Virtual Storage
DOS/VSE	DOS/Virtual Storage Extended
DOT	Department of Transportation
DOT	Direct Output
DOW	Day of the Week
DP	Data Point
DP	Data Processing
DP	Decimal Point
DP	Dew Point temperature (ICAO)
DP	Display Position
DP	Display Processing
DP	Display Processor
DP	Display Processor (in EDARC)
DP	Draft Proposal
DP	Dual Pulse
DP	Dual Pulsing
DP	logical Device Position (table)
DPA	Data Processing Activity
DPA	Delegation of Procurement Authority
DPCR	Departure ProCeduRe
DPCX	Distributed Processing Control eXecutive
DPFI	Direct Posting Fix Indicator
DPFI	Direct Posting Format Indicator
DPFP	Double-Precision Floating Point
DPG	Data Processing Group
DPI	Data Processing Installation
DPL	Direct Private Line
DPLA	DisPLAy control table

DPLD	Display Priority Large load Delay (affects change in division number) (parameter)
DPLL	DeParture List Limit (parameter)
DPLMP	Device Pointer array
DPM	Deputy Program Manager
DPMH	Direct Productive Man-Hours
DPOD	Display Priority Overload Delay (affects change in division number) (parameter)
DPPL	Display Priority Large load Parameter (division number increase) (parameter)
DPPO	Display Priority Overload Parameter (division number increase) (parameter)
DPPS	Display Priority Small load Parameter (Division Number Decrease) (parameter)
DPPX	Distributed Processing Program eXecutive
DPR	Progress Report processor subprogram (flight data processing subsystem)
DPRT	DePaRT
DPRT	DePaRTure
DPS	Data Processing Subsystem
DPS	terminal Data Processing System (case file designator)
DPSB	Beacon Datum Primary Search area (parameter)
DPSD	Display Priority Small load Delay (affects change in division number) (parameter)
DPSE	Display Priority SE parameter (division number increase) (parameter)
DPSK	Differential Phase Shift-Keyed
DPSP	Primary Data Primary Search area (parameter)
DPSS	Data Processing SubSystem
DPT	Days Prior To
DPT	DePTh (ICAO)
DPTED	Days Prior To Equipment Delivery
DPTR	DeParTuRe
DPTT	Days Prior To Test
DPU	Data Processing Unit
DQ	DARC communication (table)
DQ	Discrete code reQuest (message ID)
DQT	Design Qualification Test
DR	Data Rejected (message ID)
DR	Dead Reckoning
DR	Dead Reckoning navigation
DR	Design Review
DR	Discrepancy Report
DR	Discrimination Ratio
DR	raDio Controller
DRA	Data Receiver Assembly
DR&A	Data Recording and Analysis
DR&A	Data Reduction and Analysis
DRA	Data Reduction and Analysis
DRAD	DARC RADar
DRAD	DARC RADar Data (processing)

DRandA	Data Reduction and Analysis
DRANDA	Data Reduction AND Analysis
DRAP	Departure Route Altitude Parameter (parameter)
DRC	Dedicated Repair Contract
DRC	Digital Radar Channel
DRCM	DARC Modifications for ISSS
DRCR	Document Review and Comment Report
DRCT	DiReCT
DRCTN	DiReCTioN
DRDP	Departure Route Distance Parameter (parameter)
DRE	Data Receiver Equipment
DRE	Data Receiving Equipment
DRF	Request ARTS transFer processor subprogram (flight data processing subsystem)
DRG	Data Receiver Group
DRG	Data Receiving Group
DRG	DuRinG (ICAO)
DRIR	Direct Readout InfRared
DRM	Detailed Radar Mosaic
DRMAP	Data Responsibility Matrix/Acceptance Plan
drms	distance root mean squared
DR&P	Display Recording and Playback
DRP	Display Recording and Playback
DRPI	Direct Route Priority Indicator (parameter)
DRPS	Display Recording and Playback System
DRR	Deployment Readiness Board
DRR	Deployment Readiness Review
DRR	Design Readiness Review
DRRB	Data Requirements Review Board
DRRB	Deployment Readiness Review Board
DRS	Display Rotation Switch
DRS	Remove Strip processor subprogram (flight data processing subsystem)
DRS	weather Radar Site request message
DRSN	low DRifting SNOW (ICAO)
DRSP	Disk Route Storage Parameter (parameter)
DRT	Diagnostic Rhyme Test
DRTG	Design Review Testing Group
DS	Data base Specification
DS	Data Set
DS	Data Systems
DS	Diagnostic Specialist
DS	Directed Study
DS	DiSconnect mode
D/S	Display/Suppress
DS	Domestic Services
DSA	Data Systems Analysts, Inc.
DSA	Decoded Scanner Address
DSARC	Defense Systems Acquisition Review Council
DSATC	Descend So As To Cross
DSATR	Descend So As To Reach
DSB	Double SideBand

DSC	Data Selection Criteria (Flow Control message ID)
DSC	Data Stream Compatibility
DSC	Data Systems Coordination
DSC	Data Systems Coordinator
DSC	Digital Scan Converter
DSCP	Data Systems Change Proposal
DSCS	Defense Satellite Communications System
DSB	Digital Sequence Detector
DSE	Data Sensor Element
DSE	Data Server Element
DSE	Data Switching Equipment
DSF	Device Support Facilities
DSF	Digital Simulation Facility
DSG	Duplex Switching Group
Dsgn	Design
DSL	Device Status Line
DSLO	Distributed System License Option
DSM	Data Systems Manager
DSND	DeScenD
DSNX	Distributed System Node eXecutive
DSO	Data Systems Officer
DSP	automation programmer
DSP	Data Systems Programmer
DSP	Departure Sequencing Program
DSP	Departure Spacing Program
DSP	Digital Signal Processor
DSP	Stereo flight Plan processor subprogram (flight data processing subsystem)
DSPI	Departure Strip Printing Interval (parameter)
DSS	Data Systems Specialist
DSS	Data Systems Staff
DSS	Decision Support System
DSS	Device Support Station
DSSO	Data Systems Specialist - Operations position
DSSP	Discrete code beacon SSA Position smoothing constant (parameter)
DSST	Data Space Stress Test
DSSV	Discrete code beacon SSA Velocity smoothing constant (parameter)
DSTR	DiSasTeR
DSU	Digital Service Unit
DSU	Disk Storage Unit
DSX	Distributed System eXecutive
DT	Data Test (message ID)
DT	DEDS Dead Time
DT	Delay Time
DTAM	Descend To And Maintain
DTAX	Descend To And cross
DTC	Data Transformation Corporation
DTC	Design To Cost
DTE	Data Terminal Equipment (case file designator)
DT&E	Developmental Test and Evaluation

DT&E	Developmental Testing and Evaluation
DT&E	Development, Test, and Engineering
DT&E	Development, Test, and Evaluation
DTE	Digital Target Extractor
DTE	Digital Teletype Equipment
DTER	Data Transmittal and Evaluation Request
DTF	Data Transmission Feature
DTFA	Department of Transportation, FAA
DTG	Data Transmission Group
DTG	Date-Time Group
DTG	DT&E Testing Group
DTI	Department of Trade and Industry (British)
D.T.I.	Distortion Transmission Impairment
DTIC	DOD Defense Technical Information Center
DTL	DeTail
DTL	Diode Transistor Logic
DTLN	international DaTeLiNe
DTMF	Dual-Tone Multi-Frequency
DTML	Display Tube Measurement Laboratory
DTP	Deployment and Transition Plan
DTR	Demonstration and Test Requirements document
DTR	Discrepancy/Trouble Report
DTRT	DeTerioRaTe (ICAO)
DTRT	DeTerioRaTing (ICAO)
DTS	Data Transmission System
DTS	Digital Target Simulator
DTS	Diplomatic Telecommunications Service
DTW	Dual Tandem Wheels (ICAO)
DUAT	Direct User Access Terminal
DUC	Dense Upper Cloud (ICAO)
DUKI	DUAL Keyboard (ARTS)
DUMP	NAS component address record (adaptation record)
DUR	DURation (ICAO)
DUZ	flight Data base synthesizer subprogram (flight data processing subsystem)
DV	DeVelopment
D&V	Development and Validation
DV	Distinguished Visitors
DV	logical DeVice number (table)
DVFR	Defense Visual Flight Rules
DVG	Display Video Generator
DVIP	Digital Video Integration Processor
Dvlpmt	Development
DVOR	Doppler Very-high frequency Omnidirectional Range
DVV	Downward Vertical Velocity
DW	Direct-Wired
DW	Dual Wheels (ICAO)
DWRC	Descend Well to Right of Course
DWTR	Descend Well To Right
DX	Duplex
DX	retransmit message (message ID)
DXT	Data eXTRACT



DYSIM	DYnamic SIMulation
DYSIM	DYnamic SIMulator lab
DZ	DriZzle (ICAO)
DZ	flow control flight plan Departure message (message ID)

E	East
E	Eastern longitude (ICAO)
E	Eastern standard time
E	Ending in precipitation (time in minutes) (weather report only)
E	Equatorial (air mass)
E	Error
E	Estimated (weather reports only)
E	Expected altitude indication
E	En route (active Flight Plan message)
EA	East
EA	Environmental Assessment
EAA	En route Advanced Automation
EAA	Experimental Aircraft Association
EAAS	En route Advanced Automation System
EAC	Estimate At Completion
EAC	Expect Approach Clearance time
EAC	Expected Approach Clearance
EACNL	Expect Approach Clearance Not Later than
EAD	Effective Air Distance
EAD	Encoded Automatic Data
EADAR	External Arrival Departure Airport (adaptation record)
EADIZ	Entering Air Defense Identification Zone
EAI	Emergency Action Interface
EAIR	Extended Area Instrumentation Radar
EALT	Establishment conformance limit (parameter)
EAN	European Article Number
EAP	Effective Air Path
EAR	En Route Automated Radar tracking systems (case file designator)
EA&R	Error Reduction and Analysis
EARTS	En Route Automated Radar Terminal System
EARTS	En Route Automated Radar Tracking System
EAS	Equivalent Air Speed
EAT	Expected Approach Time
EB	East Bound (ICAO)
EBCDIC	Extended Binary Coded Decimal Interchange Code
EBND	EastBOUND
EC	E-MSAW Control (message ID)
EC	Engineering Change
EC	Extended Control
ECA	Enter Control Area
ECAC	Electromagnetic Compatibility Analysis Center
ECB	Event Control Byte
ECC	Environment Control Center
ECC	Error Checking and Correction code
ECCM	Electronic Counter-Counter Measures
ECD	Envelope-to-Cycle Difference
ECD	Except Change Departure to read
ECF	Earth-Centered Fixed
ECID	En route Computer ID

ECL	Emitter-Coupled Logic
ECM	Electronic Counter Measures
ECM	Environmental and Control Module
ECMA	European Computer Manufacturers' Association
ECMSN	Electronic Counter Measures Mission
ECO	Engineering Change Order
ECO	Equipment CheckOut
ECOM	En route COMMunications
ECP	Engineering Change Proposal
ECPS	Extended Control Program Support
ECR	Engineering Change Request
ECR	Except Change Route to read
ECSP	ElectroniC SPecialist
ECSS II	Extendable Computer System Simulator II
ECT	Error Collection Table
ECT	Evaluation, Currency, and Transportation
E&D	Engineering and Development
ED	Entry Device
EDA	Early Departure Authorized
EDARC	Enhanced Direct Access Radar Channel
E-DARC	Enhanced Direct Access Radar Channel
EDARCL	E-DARC List
EDB	Engineering Data Base
EDC	Expect Departure Clearance at
EDCT	Estimated Departure Clearance Time(FDE tower data)
EDCT	Expected Departure Clearance Time
EDG	MSAW Display Generator subprogram (display channel output subsystem)
EDLD	External Departure Logic Distance
EDP	Electronic Data Processing
EDPS	Electronic Data Processing System
EDR	Expect Departure Release at
EDRA	9020 subsystem Data Reduction and Analysis (NOSS display channel support program)
EDS	EDucation Specialist
EDSU	Error Detection and Switching Unit
EDSU	Error Detection and Switchover Unit
EDT	Eastern Daylight Time
EDX	Event-Driven eXecutive
EEA	Essential Element of Analysis
EEAC	Element Error Analysis and Configuration monitor subsystem
EEACS	Element Error Analysis and Configuration Subsystem
EEE	Electrical, Electronic, and Electrochemical
EEG	ElectroEncephaloGram
EEM	Electronic Equipment Modification
EENGR	Electrical ENGineer
EEO	Equal Employment Opportunity
EEP	End Exercise Point
EEPROM	Electronically Erasable PROM
EER	Engineering and Economics Research, Inc. (a support contractor)

EER	Engineering Evaluation Record
EET	End of Evening Twilight
EET	Ergonomic Evaluation Tool
EET	Estimated Elapsed Time (ICAO)
EF	External Function
EFA	Entire Field Available
EFA	External Function Acknowledge
EFAS	En Route Flight Advisory Service
EFC	Established Flight Coordination
EFC	Expected Further Clearance (time)
EFCT	EffEct
EFCTV	EffEctive
EFDI	Expired Fix Drop Interval (parameter)
EFF	EFFective
EFIE	Electrical Field Integral Equation
EFIS	Electronic Flight Instrument System
EFIX	External FIX
EFM	En Route Flow Management
EFR	Electronic Flight Rules
EFS	Error-Free Seconds
EFSR	Equipment Failure Summary Report
EFSS	Engineering Field Support Sector
EFTO	Encrypt For Transmission Only
EG	Emergency Gear
EG	Engine Generator
E/G	Engine-Generator
EGA	Enhanced Graphics Adapter
EGAT	Enable GATe
EGATS/SF	automated SF-52
EGECON	Electronic Geographic COordinator Navigation system
EH	Error History (table)
EHA	Expect Higher Altitude
EHF	Extremely High Frequency
EHT	Extra-High Tension
EI	Element Indicator
EI	E-MSAW Indefinite suppression (message ID)
EIA	Electronic Industries Association (formerly RTMA)
EIA	Energy Information Administration
EICM	Excessive InComplete Messages limit (parameter)
EIO	External Input/Output
EIR	External Interrupt Request
EIS	Environmental Impact Statement
EIT	Electronic Installation Technician
EIU	EDARC Interface Unit
EIU	External Interface Unit
EIVB	Excessive InValid Beacon message (CCC bits) 5 and 6 (invalid combination) limit (parameter)
EIVM	Excessive InValid Messages limit (parameter)
EJ	External Junction
EKCP	E-DARC System interface Keyboard Common Processor

EKCP	ESI Keyboard Communications Processor (embedded software)
EKG	ElectrocardioGram
EL	ElectroLuminescent
EL	Equilibrium Level
ELAT	Estimated LATitude
ELBA	Emergency Locator Beacon - Aircraft (ICAO)
ELC	ELement Check
ELD	ELectrical Distribution system
Elec	Electric
ELECN	ELECtrician
ELEV	ELEVate
ELEV	ELEVation
ELF	Extremely Low Frequency
ELIAS	Entry Level Interactive Application System
ELIAS	Expanded Level Interactive Application System
ELINT	ELectronic INTelligence
ELIP	ELLIPtical
ELM	Extended-Length Message
ELMNT	NAS ELEMeNT (CPU, TCU, PAM, or LDDA)
ELMT	ELectronic Mechanic Technician
ELNGT	ELONGate
ELO	En route sector LOad
ELOD	En route sector LOaDing
ELONG	Estimated LONGitude
ELR	Extra Long Range (ICAO)
ELSW	ELSeWhere
ELT	Emergency Locator Transmitter
ELTC	End of tape/Low Tape Control
EM	EMergency
EM	EMission (ICAO)
EM	Error Message
E-MAIL	Electronic MAIL
EMBD	EMBeddeD in a layer (ICAO)
EMBDD	EMBeDdeD
EMC	ElectroMagnetic Compatibility
EMC/RFI	ElectroMagnetic Compatibility/Radio Frequency Interface
EMC/RFI	ElectroMagnetic Compatibility/Radio Frequency Interference
EMD	Encoded Manual Data
EMDO	Engineering and Manufacturing District Office
EMEM	End of tape MEMory
EMERG	EMERGENCY
EMERS	Emergency Management Efficiency Reporting System
EMH	Executive/Monitor Handbook
EMI	ElectroMagnetic Interface
EMI	ElectroMagnetic Interference
EMI	Electronic Maintenance Inspector
EMIC	ElectroMagnetic Interference Control
EMILY	ElectroMagnetic Interference Linked to Ytterbium
EMP	ElectroMagnetic Pulse

EMP	Engineering Management Plan
EMP	Executive Management Planning
EMPS	En route Maintenance Processing Subsystem
EMPS	En route Maintenance Processor Subsystem
EMR	Executive Management Review
EMRG	EMeRGency
EMSA	E-MSAW Arrival Suppression distance (parameter)
E-MSAW	En route Minimum Safe Altitude Warning (adaptation record)
E-MSAW	En route Minimum Safe Altitude Warning
EMSAW	En route Minimum Safe Altitude Warning
EMSD	E-MSAW Departure Suppression distance (parameter)
EMSU	Environment Meteorological Support Unit
EMT	Electronic Maintenance Technician
EMT	Emergency Medical Technician
EN	Engineering Notice
ENB	Engineering NoteBook
ENCAN	Enter CANadian airspace
ENCTR	ENCounTeR
END	stop-END (related to RVR) (ICAO)
ENDAR	END Aerial Refueling
ENDCE	ENDurance
ENDG	ENDing
ENE	East North East
ENERN	East-NorthEasterN (weather report only)
ENEWD	East-NorthEastWard (weather report only)
ENG	ENGINE
ENG	standby power systems (case file designator)
ENGR	ENGINEer
ENHNCD	ENHAnCeD
ENHNCMNT	ENHAnCeMeNT
ENJJPT	Euro-NATO Joint Jet Pilot Training
ENRIN	EN Route INput processor
ENROUT	EN ROUTe
ENRT	EN RouTe
ENRTE	EN RouTE
ENTR	ENTiRe
ENV	ENVironmental (case file designator)
Envir	Environment
ENVT	ENVironment data collection (IBM CSCI 10, AAS)
EO	Engineering Order
EOA	End-of-Address
EOBT	Estimated Off Block Time (ICAO)
EOD	End-of-Data
EOD	End-of-Display
EOD	Entered On Duty
EOD	Entrance On Duty
EO/DCN	Engineering Orders/Document Change Notice
EOF	Emergency Operational Facility
EOF	Emergency Operations Facility
EOF	End-of-File
EOF	Expected Operations Forecast

EOL	End-of-Line
EOM	Ease of Maintenance
EOM	End-of-Message
EOQ	Economic Ordering Quantity
EOR	End-of-Record
EOR	End-of-Report
EOT	End-of-Tape
EOT	End-of-Transmission
EOVM	Emergency Obstruction Video Map
EOY	End of Year
EP	Emulator Program
EP	En route Penetration
EP	Examine Parameter (message ID)
EPA	Engineering Performance Assessment
EPA	Environmental Protection Agency
EPATS	Expenditure Planning And Tracking System
EPCA	Energy Policy and Conservation Act
EPE	E-Systems Position Equipment
EPI	Expanded Position Indicator
EPIRBS	Emergency Position Indicator Radio Beacon
EPL	External Packet Link
EPM	Engineering Practices Manual
EPNL	Effective Perceived Noise Level
EPO	Emergency Power Off (switch)
EPP	Executive Planning Panel
EPPI	Entry Point Posting Indicator (parameter)
EPROM	Erasable Programmable Read-Only Memory
EPVAL	Examine Parameter readout
EQARS	EARTS Quick Analysis of Radar Systems
EQCRT	Equipment CeRTified
EQF	Expanded Quota Flow (replaces FAD)
EQM	Equipment Monitor
EQPMT	EquiPMent
EQPT	EquiPMent (ICAO)
EQT	Environmental Qualification Testing
EQUIP	EQUIPMent
EquipSt	Equipment Status list
ER	E-MSAW status Request (message ID)
ER	Engineering Report
ER	Engineering Requirement
ER	En Route
ER	Established Reliability
ER	Established Requirements
ER	hERe (ICAO)
ER	hERewith (ICAO)
E&R	Exchange and Repair
E/R	Exchange and Repair
ERAD	En route RADar
ERC	Electronic Resource Center
ERC	Expanded Refresh Cabinet
ERC	Extended Refresh Control

EREP	Environmental Recording, Editing, and Printing program
EREP	Error Recovery Executive Program
ERFM	En Route Flow Management
ERL	Environmental Research Laboratories
ERM	En Route Metering
ERM-II	En Route Metering - II
ERMG	En Route MeterinG
ERMS	Environmental Remote Monitoring Subsystem
ERMT	Error Recovery and Mode Transmission
ERP	Effective Radiated Power
ERSDS	En Route Software Development Support
ERSIC	Expanded Refresh Subsystem Interface Controller
ERSP	En Route Spacing Program
ERT	Equipment Removal Team
ERY	EaRly
ES	E-MSAW specific Suppression (message ID)
E/S	Engineering/scientific Support system
ESA	European Space Agency
ESAAP	Advanced Automation Program
ESCAT	Emergency Security Control of Air Traffic
ESDS	Entry Sequenced Data Sets
ESE	East South East
ESEC	En route SECondary radar beacon
ESERN	East-SouthEasterN (weather report only)
ESEWD	East-Southeastward (weather report only)
ESI	EDARC System Interface
ESI	ElectroStatic Interface
ESI	ElectroStatic Interference
ESIP	EDARC System Interface Processor
ESMMC	Enhanced System Maintenance Monitor Console
ESMMC	Enhanced System Maintenance Monitoring control Console
ESNTL	ESsentiAL
ESP	Early Support Program
ESP	En route Spacing Program
ESPI	En route Strip Printing Interval (parameter)
ESS	Electronic Switching System
ES&S	Engineering Services and Support
ESS	Environmental Stress Screening
ESSA-W	Environmental Science Service Administration - Weather bureau
ESSF	En route System Support Facility
ESSR	Exceptional Status Summary Report
EST	boundary ESTimate message (ICAO)
EST	Eastern Standard Time
EST	Enhanced Simulation Training
EST	ESTimate
EST	ESTimated
EST	ESTimation
ESTAB	ESTABlish
ESTABMT	ESTABlishMenT



ESTG	EstimaTinG
ESTI	Estimated Time Interval (parameter)
ESU	Environmental Support Unit
ESV	Expanded Service Volume
ET	Electronic Technician
ET	Electronic Tension
ETA	Estimated Time of Arrival
ETA	EstImating Arrival (ICAO)
ETABS	Electronic TABular display System
ETAR	Estimated Time of Arrival at the Runway
ETARS	En route Terminal Automated Radar Service
ETAS	Effective True AirSpeed
ETB	End of Block
ETB	End of Text Block
ETC	End of Tape Circuit
ETC	Estimate To Complete
etc	et cetera
ETCA	Enhanced Terminal Conflict Alert
ETD	Estimated Time of Departure
ETD	EstImating Departure (ICAO)
ETDL	Equipment Transient Design Level
ETDP	Estimated Time and point of DEWIZ Penetration
ETE	Estimated Time En route
ETFL	Each Thousand-Foot Level
ETG	End of Tape Gate
ETG	EARTS Target Generator
ETG	Enhanced Target Generator (ARTS III)
ETI	EstImated Information
ETIM	Elapsed TIME
E-TIME	Estimated departure TIME
ETMS	Enhanced Traffic Management System
ETMV	End of Tape Multi-Vibrator
ETN	Emergency Tandem Network
ETO	Estimated Time Over significant point (ICAO)
ETO	European Theater of Operations
ETOV	Estimated Time or abeam
ETOV	Estimated Time OVer
ETP	Equal Time Point
ETP	Estimated Time of Penetration
ETSS	Entry Time Sharing System
ETX	End of TeXt
EU	Electronic Unit
EUCARF	EUropean Central Altitude Reservation Facility
EUO	Emergency Use Only
EUPS	Essential Uninterrupted Power Source
EUPS	Essential Uninterruptible Power Source
EUPS	Essential Uninterruptible Power Supply
EUT	Equipment Under Test
EV	E-MSAW VFR processing (message ID)
EV	EVery (ICAO)
EVAC	EVACuation
EVAL	EVALuate

EVAL	EVALuation
EVAN	Exigible and Vestigial Analysis of Nyctalopia
EVE	EVening
EVS	Electronic Voice Switching
EVT	Expect Vector To
EWO	Emergency War Order
EWP	Engineering Work Plan
EXAM	EXAMination
EXC	EXCept (ICAO)
EXCAN	EXit CANadian airspace
EXCHG	EXCHanGe
EXCLD	EXCLuDe
EXCLV	EXCLusiVe
EXCOM	EXecutive COMmittee
EXCP	EXCePt
EXCT	EXeCuTe
EXDC	External Data Controller
EXDCW	External Data Controller (3083 IOCE)
EXEC	EXECute
EXEC	EXECutive
EXEC	operating system and EXECutive
EXEC-1	President on board civil aircraft
EXEC-1F	President's family on board civil aircraft
EXEC-2	Vice President on board civil aircraft
EXEC-2F	Vice President's family on board civil aircraft
EXER	EXERcise(s) (ICAO)
EXER	EXERCising (ICAO)
Exist.	Existing
EXMAPT	External Metering AirPort record (adaptation record)
EXMR	EXecute MACH storage Routine (SVC routine)
EXP	EXPeCt (ICAO)
EXP	EXPeCted (ICAO)
EXP	EXPeCting (ICAO)
EXPC	EXPeCt
EXPED	EXPEDite
EXPHO	EXpedite delivery by telePHOne
EXPS	EXPress
EXQF	EXpanded Quote Flow
EXREP	EXpedite mail REPlY
EXS	EXtrapolation Status
EXSEC	EXtra SECTion
EXSHI	EXpedite SHIpment
EXT	EXTeRnal
EXTD	EXTenD
EXTD	EXTenDing (ICAO)
EXTN	EXTension
EXTRAP	EXTRAPolate
EXTRM	EXTReMe
EXTSV	EXTenSiv

F	cleared to fix
F	Fahrenheit
F	Fixed (ICAO)
F	Flight inspection
F	Flight status (IFR or VFR) (FDE tower data)
F	Fog (weather reports only)
F	Function
FA	Area Forecast
FA	FActory
FA	FAhrenheit
FA	Final Approach
FA	Fuel Advisory departure flow (message ID)
FAA	Federal Aviation Administration
FAA	For An Approach to
FAAA	FAA aeronautical center (Academy, Oklahoma City)
FAAAC	FAA Aeronautical Center (Oklahoma City)
FAACCS	FAA Comment Collection System
FAA AFIO	FAA Authorization For Interceptor Operations
FAAP	Federal-Aid Airport Program
FAAR	FAA Requirements
FAAR	Flight plan route usage Analysis Report
FAA-STD	FAA STandard
FAATC	FAA Technical Center (Atlantic City)
FAC	FACility
FAC	Final Approach Course
FA Center	aviation Area Forecast Center
FACF	FACility Chief
FACI	First Article Configuration Inspection
FACID	FACility IDentifier
FACO	FACility Control Office
FACODE	FACility CODE
FACSFAC	Fleet Area Control and Surveillance FACility
FACT	FACTory acceptance Test
FAD	Fuel Advisory Departure (replaced by EQF)
FADEC	Full Authority Digital Electronic Control
FADP	Fuel Advisory Departure, Permanent
FADT	Fuel Advisory Departure, Trial
FAF	Final Approach Fix
FAH	Altitude Filter High
FAH	FAHrenheit
FAIL	Mode C altitude FAILure time (parameter)
FAIL	TI message or TA message rejected (shown in FDB)
FAITH	Functional Analysis Initial Hands-on
FAL	Altitude Filter Low
FAL	FAciLitation of international air transport (ICAO)
FAM	FAMiliar
FAM	FAMiliarization
FAMAE	Following AMendment Authorized Effective ...
FANS	Future Air Navigation System
FAP	Final APproach
FAP	Final Approach Point (ICAO)
FAR	Federal Acquisition Regulations

FAR	Federal Aviation Regulation
FARR	FAA/Air Force Radar Replacement (3-D)
FASST	Fly Around Saturated Sectors and Terminals
FAST	FAST lateral divergence threshold (parameter)
FAT	Factory Acceptance Test
FATFL	FSS Assumes control of Tower Frequencies and Lights
FATTAC	Facility Air Traffic Technical Advisory Committee
FAWP	Final Approach WayPoint
FAWS	Flight Advisory Weather Service
FAX	Facsimile
FAX	Facsimile transmission (ICAO)
FB	Facility Backup
FB	Flush Bulk storage (message ID)
FBL	light (used to qualify icing, turbulence, interference or static reports) (ICAO)
FBO	Fixed Base Operations
FBO	Fixed Base Operator
FC	advance Flow Control information (message ID)
FC	Flow Control
FC	Flow Control alphanumerics (table)
fc	foot-candles
FC	Funnel Cloud (ICAO)
FCA	Final Configuration Audit
FCA	Functional Configuration Audit
FCB	Facility Control Block
FCC	Facility Configuration Console
FCC	Facility Configuration Control
FCC	Facility Control Complex (FAATC)
FCC	Federal Communications Commission
FCD	Flow Control Data (Flow Control message ID)
FCDI	Flow Control Display Interval (parameter)
FCE	Functional Control Element
FCI	Functional Configuration Identification
FCL	Fixed Chain List
FCLDN	Flow Control LDN (adaptation record)
FCLT	Freeze Calculated Landing Time (parameter)
FCO	Facility Coordination Officer
FCO	Factory Change Order
FCPI	Flow Control Printing Interval (parameter)
FCPR	Functional Capabilities and Performance Requirements
FCPU	Facility Central Processing Unit
FCRC	Federal Contract Research Center
FCRP	Central Flow automation facility Retransmissions Parameter (parameter)
FCRT	Central Flow automation facility Retry Parameter (parameter)
FCS	Frame Check Sequence
FCST	ForeCaST
FCTA	Flow Control Time of Arrival
Fd	doppler Frequency

FD	Fault Detection
FD	Fence Diagram
FD	Flight Data
FD	Functional Description
FD	winds aloft
FD	winds and temperature aloft forecast
FDA	Display Availability list management subprogram (display channel output subsystem)
FDA	Flight Data Area
FDAD	Full Digital ARTS-III Display
FDAT	Flight DATA
FDB	Full Data Block
FDC	Flight Data Center
FDC	Flight Data Concentrator
FD/CD	Flight Data/Clearance Delivery (ATCT position)
FDCS	Flight Data Communications Specialist
FDD	Flight Data Display
FDDI	Fiber Distributed Data Interface
FDDI	Fiber Distribution Data Interface
FDDL	Frequency Division Data Link
FDDOP	Flight Data Display Output Processing
FDDS	Flight Data Distribution System
FDE	Flight Data Entry
FDE	Flight Data processing system (case file designator)
FDED	Flight Data Entry Device
FDED	Flight Data Entry and Display
FDEN	Flight Data Entry Notation
FDEP	Flight Data Entry and Printout
FDIO	Flight Data Input/Output
FDL	Flight Dynamics Laboratory
FDM	Flight Data Monitor
FDM	Frequency Division Multiplex
FDMA	Frequency Division Multiple Access
FDO	Fee-Determining Official
FDP	FDAD Display Processor
FDP	Field Developed Program
FDP	Flight Data Processing
FDP	Flight Data Processing subsystem
FDP	Flight Data Processor system
FDP	Functional Development Plan
FDPC	Federal Data Processing Center
FDPS	Flight Data Processing System
FDR	Final Design Review
FDR	Functional Design Review
FDRA	Flight Data Readout Area
FDRP	FDEP Retransmissions Period (parameter)
FDS	Functional Design Specification
FDSC	Flight Data Communications Specialist
FDSC	Flight Data Specialist, Communications
FDT	Flight Data Table
FDX	Full Duplex

FE	central External advance Flow control information (message ID)
F&E	Facilities and Engineering
F&E	Facilities and Equipment
FE	FDEP device (table)
FE	Field Engineer
FEB	FEbruary
FEC	Federal Employees' Compensation
FE&D	Facilities, Engineering, and Development
FED	FEDeral
FEDSIM	FEDeral computer evaluation and SIMulation center
FEDSIM	FEDeral computer performance evaluation and SIMulation center
FEDSTRIP	FEDeral Standard Requisitioning and Issue Procedure
FEMA	Federal Emergency Management Agency
FEMM	Field Engineering Maintenance Manual
FEMS	Facilities & Equipment Manpower System
FENKN	FuEl supply uNKNOwn
FENTL	FuEl supply UNTiL
FEP	Front-End Processor
FERA	F&E Regional ARTEMIS
FERI	FDEP Error Referral Interval (parameter)
FERS	Facilities & Equipment Reporting System
FET	Field Effect Transistor
FEXHA	Fuel supply EXHAusted
FF	Flight Following
FFC	Flow Control processing subprogram (supervisory subsystem)
FFC	For Further Clearance
FFF	Form, Fit, and Function
FFF	Form, Fix, and Function
FFLT	Familiarize FLight
FFM	Far Field Monitor (associated with CAT III ILS)
FFMN	Fixed Federal Monitoring Network
FFP	Firm-Fixed Price
FFT	Fast Fourier Transform
FFTP	Form Feed Timing Parameter (parameter)
FG	Functional Group
FG	FoG (ICAO)
FGAT	Flux GATe
FGC	Flux Gate Control
FGHQ	Fighter Group HeadQuarters
FH	Final Heading
FHCO	FAA Headquarters Contracting Officer
FHD	Fixed-Head Disk (NADIN)
FHWA	Federal HighWay Administration
FI	central internal advance Flow control Information (message ID)
FI	Fault Isolation
FI	Flight Itinerary (message ID)
FIBI	Filed but Impracticable to transmit

FIC	Flight Information Center
FIDO	Flight Inspection District Office
FIDS	Functional Interface Design Specification
FIFO	First In/First Out
FIFO	Flight Inspection Field Office
FIFO-H	Flight Inspection Field Office - High altitude
FIFP	Filed IFR Flight Plan
FIG	FIGure shift (on keyboard)
FIG	Flight Inspection Group
FI/P	Flight Information/Permanent
FIL	FILament
FILG	FILinG
FILS	Florescan Instrument Landing System
FINO	weather report will not be filed for transmission
FIPS	Federal Information Processing Standard
FIPS-PUB	FIPS PUBlication
FIR	Finite Impulse Response
FIR	Flight Information Region
FIRAV	FIRst AVailable
FIRB	Flight Information Region Boundary (parameter)
FIRG	FIRinG
FIRIV	arRIVal flight will be Filed with ...
FIRMR	Federal Information Resources Management Regulation
FIRMR	Federal Information Resources Management Requirements
FIS	Facilities Installation Services
FIS	Flight Information Service (ICAO)
FISA	Automated Flight Information Service (ICAO)
FIT	Facility Instructor Training
FIT	Fault Isolation Test
FI/T	Flight Information/Temporary
FIX	coordination FIX (in flight plan)
FIX	defined geographic location
FIX	FIX table
FIXD	FIX Distance tolerance (parameter)
FIXPOST	FIX POSTing list
FL	alphanumeric FLight plan data base (table)
FL	Filter
FL	FLash advisory
FL	Flight Level
fL	foot-Lamberts
FL PA	Flight Level Pressure Altitude
FLA	Fixed Length test
FLARE	Fault Location, Analysis, and Recovery
FLAT	Flight-Level-Aided Tracking
FLAT	FLight-plan-Aided Tracking
FLCTN	FLuCTuation
FLD	FieLD
FLDST	FLood STage
FLEX	model name
FLEXAASn	model name (AAS version "n" of FLEX)

FLG	FaLLing
FLG	FLashing (ICAO)
FLID	FLight IDentification
FLID	FLight plan IDentification
FLIDAP	FLight DATA Position
FLIDAP	FLight DATA Preparation
FLIH	First-Level Interrupt Handler
FLIP	FLight Information Publication
FLIR	Forward-Looking InfraRed
FLOP	Functional Lapse of Operational Processing
FLORL	FLuORescent runway Lighting
FLOWARPT	control FLOW AiRPort record (adaptation record) (deleted)
FLOWCNTL	FLOW CONTRoL record (adaptation record)
FLR	FLaRes (ICAO)
FLRY	FLuRrY
FLT	Fault Location Tests
FLT	FLight
FLTCK	FLight Check
FLTO	FLight Odors
FLTS	FLightS
FLTWO	FLight Watch Out
FLUC	FLUctuating (ICAO)
FLUC	FLUctuation (ICAO)
FLW	FoLloW
FLW	FoLloWing (ICAO)
FLWIS	FLood Warning ISSued
FLY	FLYing (ICAO)
FM	Facility Manager
FM	Fan Marker
FM	Frequency Modulation
FM	From
FMAP	Fan Marker Approach
FMC	Flight Management Computer
FMCC	Financial Management and Cost Control
FMCS	Flight Management Computer System
FM-CW	Frequency Modulation - Continuous Wave
FMDT	Flight Movement Data Transfer
FMEA	Failure Mode Effect Analysis
FMEA	Failure Modes and Effects
FMEA	Failure Modes, Effects, and Analysis
FMECA	Failure Mode Effects and Criticality Analysis
FMECA	Failure Modes, Effects, and Criticality Analysis
FMF	Facilities Master File
FMF	Facility Master File
FMF/PFF	Facility Master File/Pre-commissioning Facility File
FMH	Fan Marker located with radio beacon
FMH	Federal Meteorological Handbook
FMO	Frequency Management Officer
FMP	Field Maintenance Project
FMS	File Management System



FMS	Flight Management System
FMS	Flight Match Status
FMT	Failure-Mode Test
FMT	Failure-Mode Testing
FMT	ForMaT
FMT	Forward Motion Tension
FMU	Fixed Map Unit
FNA	FiNal Approach (ICAO)
FNCTN	FuNCTioN
FNT	FrONT
FNTGNS	FrONTToGeNeSiS
FNTLYS	FrONTToLYSiS
FO	Functional Organization
FO	terminate Flow control information (message ID)
FOB	Facility Operations Branch
FOB	Federal Office Building
FOB	Forward Operating Base
FOB	Fuel On Board
FONE	telephONE
FONSI	Findings Of No Significant Impact
FORC	FORCe display
FORN	FOReNoON
FORTRAN	FORMula TRANSlation programming language
FOST	FactOry System Test
FOUO	For Official Use Only
FP	Fast Path feature of IMS/VS
FP	Flight Plan
FP	Flight Plan (message ID)
FP	Flight Plan index (table)
FP	Floating Point
FPA	Fix Posting Area
FPA	Flat Panel Assembly
FPA	Flight Path Angle
FPA	Floating Point Accelerator
FPAP	Flight Planning And Processing
FPAS	Flight Plan Analysis Subsystem
FPB	Flight Progress Board
FPCP	Flight Plan Conflict Probe
FPCR	Flight Plan Core-Resident (table)
FPDB	Flight Plan Data Base
FPDI	Flight Path Deviation Indicator
FPE	Flight Plan Extrapolation
FPF	FluoroProtein Foam
FPF	Focal Point Fix
FPI	Fixed Price Incentive
FPL	ICAO filed Flight PLan (message ID)
FPL	Full Performance Level
FPLOE	Fixed-Price Level Of Effort
FPM	Feet Per Minute
FPMR	Federal Property Management Regulations
FPN	Fixed-Pulse radar Navigation
FPNO	Flight Plan Not Received

FPP	From Present Position
FPPI	Filed Point Posting Indicator (parameter)
FPQT	Functional Preliminary Qualification Test
FPR	Flight Plan Route
FPR	Floating Point Register
FPRC	For Possible ReClearance
FPS	Financial Planning System
FPS	Fixed-Pulse Search (military radar)
FPS	Flight Plan System
FPS	military primary radar
FPS	planned shutdown management subprogram (supervisory subsystem)
FPSM	Flight Phase Status Monitoring
FPSM	Flight Plan Source Management (operational unit)
FPSP	Flight Progress Strip Preparation
FPSS	Feet Per Second per Second
FPU	Functional Processing Unit
FPU-C	Functional Processing Unit-Control (NADIN)
FPWA	Further Particulars When Available
FQR	Formal Qualification Review
FQT	Formal Qualification Testing
FQT	FreQuenT
FR	Failure Rate (per million hours)
FR	Flight plan Readout request (message ID)
FR	Fuel Remaining
FR-1800	Ampex FR-1800 digital recorder
FRACAS	Failure Reporting, Analysis, and Corrective Action System
FRB	Failure Review Board
FRC	Full Route Clearance
FRD	Fixed Radial Distance
FRD	Fix Radial Distance
FRD	FTM Read subprogram (supervisory subsystem)
FRE	FREE track
FREE	FREE tracking
FREQ	FREQuency
FRG	Forward and Reverse Gating
FRH	From Runway Heading
FRM	FoRM
FRI	FRIday
FRMG	FoRMing
FRMN	FoRMation
FRMT	Facility Resident Management Team
FRN	Field Reference Number
FRNG	FiRiNG (ICAO)
FRNP	Federal Radio Navigation Plan
FRONT	weather FRONT (ICAO)
FROPA	FROntal PAssage
FROSFC	FROntal SurFaCe
FRP	Federal Radio-navigation Plan
FRP	Fiberglass Reinforced Plastic
FRQ	FReQuent (ICAO)

FRS	Functional Requirements Specification
FRST	FRoST
FRTFL	FSS Returns control of Tower Frequencies and Lights
FRU	Field Replaceable Unit
FRU	Field Replacement Unit
FRUIT	False Replies Unsynchronized to Interrogator Transmission
FRW	File Regeneration Weight
FRWF	Forecast Wind Factor
FRZ	FReeZe
FRZN	FRoZeN
FS	Flight Service
FS	Flight Status
FS	Flight Strip Status (table)
FSAS	Flight Service Automation System
FSAS	Flight Status Alerts Subsystem
FSASS	Flight Service Automated System Service
FSC	Facility and Simulation Control
FSC	Frame Sequence Check
FSCM	Federal Supply Code for Manufacturers
FSD	Federal Systems Division (IBM)
FSD	Finite State Diagram
FSD	Full-Scale Development
FSDO	Flight Standards District Office
FSDPS	Flight Service Data Processing System
FSDV	Flight Schedule Data Vendor (Official Airline Guide)
FSEC	Federal Software Exchange Center
FSED	Full-Scale Engineering Development
FSEP	Facility, Service, and Equipment Profile
FSG	Federal Systems Group
FSH	Flight Service operating facility co-located at ARTCCs
FSHD	Flight plan Segment Heading Difference (parameter)
FSIS	Flight Service Information System
FSK	Frequency Shift Keying
FSL	Full-Stop Landing
FSM	Finite State Machine
FSM	Firmware Support Manual
FSM	Full Service Mode
FSNFO	Flight Standards National Field Office
FSO	Field Site Office
FSO	Field Site Officer
FSO	Field Support Organization
FSOC	Field Support Operations Concept
FSP	Flight Strip Printer
FSP	Flight Strip Printer subsystem (case file designator)
FSPCM	FSP Control Module
FSPCU	FSP Control Unit
FSPD	Freeze SPeeD (parameter)

FSPI	Flight Summary Printout Interval (parameter)
FSPMNT	Flight Strip Printer MainTenance program
FSR	Foot Switch Retainer
FSS	Flight Service Station
FSS	Flight Service System (case file designator)
FSSCOM	FSS operations and procedures COMmittee
FSSF	Flight Service Station support Facility
FST	Facility Supervisor Terminal
FST	Finite State Table
FST	FIRST (ICAO)
FSTN	Federal Secure Telephone Network
ft	feet
FT	Filing Time
FT	Foot
FT	Forced Transmission (message ID)
FT	terminal advance flow control Information (message ID)
FT	Terminal Forecast
FTA	Fault Tree Analysis
FTA	Terminal Forecast (AFOS mnemonic)
FTAR	Following Transmission As Received
FTC	Fast Time Constant
FTD	Final Time Destination
FTD	Fix Time Determination
FT&E	Field Test and Evaluation
FTE	Flight Technical Error
FTE	Full Time Equivalent
FTHD	Flight plan Track Heading Difference (parameter)
FTHR	FarThER
FTHR	Final THreshold
FTHR	FurThER
FTHRD	FeaThEReD
FTL	Flight Transportation Laboratory (MIT)
FTM	TIMS-dependent Table Management subprogram (supervisory subsystem)
FTN	AFTN (case file designator)
FTO	Functional Tie-Off control subprogram (flight status alerts subsystem)
FTOI	Functional Tie-Off Indicator (parameter)
FTP	File Transfer Program
FTPD	Flight plan Track Position Difference (parameter)
FTS	Facility Time Source
FTS	Federal Telecommunications System
FTUI	Flow Time Update Interval (parameter)
FU	smoke (ICAO)
FUP	File Utility Program (IMCS)
FURN	FURNish
FV	Forward Visibility
FVFP	Filed VFR Flight Plan
FVFR	FDEP-equipped Facilities' VFR inhibit indicator (parameter)
FW	Flight Watch

FW	Full Wave
FWA	Flight Watch Area
FWC	Fleet Weather Control
FWCS	Flight Watch Control Station
FWD	ForWard
FWDC	ForWard Collect
FWIN	Full-Word INteger
FWP	Flight Watch Point
FWR	FTM WRite subprogram (supervisory subsystem)
FWRNG	Fire WaRNing
FWS	Flight Watch Specialist
FW/SIFR	Fixed-Wing Special Instrument Flight Rules
FW/SVFR	Fixed-Wing Special Visual Flight Rules
FWTI	Fast Warning Time Interval (parameter)
FWU	Flight Watch Unit
FX	Flight plan buffer (table)
FX	Foreign eXchange
FY	Fiscal Year
FY	supplemental Flight plan index (table)
FYI	For Your Information
FZ	Flight strip status (table)
FZ	Flow control flight plan information message (message ID)
FZ	FreeZing (ICAO)
FZDZ	FreeZing DriZzle (ICAO)
FZFG	FreeZing FoG (ICAO)
FZRA	FreeZing RAin (ICAO)

G	Gravity (also acceleration caused by gravity)
G	Green
G	Group suppression list
G	Gusts reaching (knots) (weather reports only)
GA	General Aviation
GA	Glide Angle
GA	Government Acceptance
G/A	Ground to Air
G-A	Ground to Air
GAATS	Gander (Newfoundland) Automated Air Traffic control System
GADD	General Aviation Domestic Departures
GADO	General Aviation District Office
GADO	General Aviation Domestic Overflights
GAEL	General Airport Elevation (parameter)
G/A/G	Ground-to-air and Air-to Ground
GAMA	General Aviation Manufacturers Association
GAO	General Accounting Office
GAO	Government Accounting Office
GAOD	General Aviation Oceanic Departures
GAOO	General Aviation Oceanic Overflights
GAP	Altitude Processing subroutine (flight status alerts subsystem)
GAR	General Aviation Review
GASP	General Aviation Safety Panel
GAT	GATe
GAT	General Aviation Trainer
GAT	Greenwich Apparent Time
GATR	Ground/Air Transmitter/Receiver
GB	GigaByte
GB	Green, Blue (display colors)
GBA	Give Better Address
GBF/DIME	Geographic Base File/Dual Independent Map Encoding
GBL	Government Bill of Lading
GBR	Give Better Reference
GC	Grid Course
GC	Ground Control (FAA ATCT position)
GCA	Ground Collision Avoidance
GCA	Ground-Controlled Approach
GCA	Ground Controlled Approach system (ICAO)
GCB	Gated Converter Buffer
GCF	Center strip field Formatter subroutine (flight status alerts subsystem)
GCI	Ground-Controlled Intercept
GCLR	General aircraft CLimb Rate (parameter)
GCLS	General CLimb Speed (parameter)
GCPC	Great Circle Processing Check (parameter)
GCR	Group-Coded Recorded
GCS	Center Strip driver subroutine (flight status alerts subsystem)
G&CSD	Government & Commercial Systems Division
GCT	Greenwich Civil Time

G.c.t.	Greenwich civil time
GDDM	Graphic Data Display Manager
GDDM/PGF	GDDM/Presentation Graphics Feature
GDET	Gap DETector
GDL	GuiDance Light facility
GDOP	Geometric Dilution Of Precision
GDTR	General aircraft DescenT Rate (parameter)
.GE.	Greater than or Equal to
GEM	GEographic Map
GEN	GENeral
GENASYS	CDC source compiler (NOSS display channel support program)
GENOT	GEneral NOTice
GEO	GEographic
GEO	true (ICAO)
GEODS	Ground-based Electro-Optical Detection System
GEOMAP	GEographical MAP
GEOMOD	GEometric MODel (modeling program)
GEOREF	GEographic REference (world geographic reference system)
GF	Government-Furnished
GF	Grid winds
GF	Ground Fog
GFDEP	Ground Fog, estimating DEParture
GFE	Government-Furnished Equipment
GFF	FDEP strip Field Formatter subroutine (flight status alerts subsystem)
GFI	Government-Furnished Information
GFI	Ground Fault Interrupter
GFM	Government-Furnished Material
GFP	Government-Furnished Program
GFP	Government-Furnished Property
GFR	Gap Filler Radar
GFS	FDEP strip driver subroutine (flight status alerts subsystem)
GFS	Government-Furnished Services
GFS	Government-Furnished Software
GFSE	Ground Facilities, Systems, and Equipment
GG	Graphics Generator
G/G	Ground-to-Ground
GGCC	Ground Guidance and Control Concept
GH	Grid Heading
GHA	Greenwich Hour Angle
GHZ	GigaHertz
GI	General Information (message ID)
GI	Government Issue
GIC	GPS Integrity Channel
GICG	Glaze ICinG
GIM	General Information Message
GIS/VS	Generalized Information System/Virtual Storage
GL	Geographic map Line
GLAPPR	General Ledger, Accounts Payable, and PayRoll

GLD	GLiDer (ICAO)
GLDR	GLiDeR
GLFALSK	GuLF of ALaSKa
GLFCAL	GuLF of CALifornia
GLFMEX	GuLF of MEXico
GLFSTLAWR	GuLF of ST. LAWrence
GMF	Mutual strip field Formatter subroutine (flight status alerts subsystem)
GMIP	General Message Input Processor
GML	Generalized Markup Language
GMLMAP	Geo-Map Logical MAP (adaptation record)
GMLSDA	Geo-Map Line Segment Delete/Add (adaptation record)
GMPP	Geo-Map Plot Program (NOSS DR&A program)
GMSGAP	Geo-Map center map fix GAP parameter (adaptation record)
GMSSDA	Geo-Map Single-Symbol Delete/Add (adaptation record)
GMT	Greenwich Mean Time
GN	Grid North
GNAS	General National Airspace System (sector office)
GNASS	General National Airspace System Sector
GND	Ground
GNDCK	Ground Check (ICAO)
GND-CON	Ground CONTROL
GNDFG	Ground FoG
GNP	Gross National Product
GNSS	Global Navigation Satellite System
GNTR	GeNeRaToR
GO	start processing (message ID)
GOES	Geostationary Operational Environmental Satellite
GOMER	Geomorphological Observations of Meteorological Extended Radar
GOS	center Operational and Shutdown complete subroutine (flight status alerts subsystem)
GOSIP	Government Open Systems Interconnection Procurement
GP	Gryo Precession
GP	Glide Path
GP	Graphics Processing
GPA	General-Purpose Adapter
GPAP	Generalized Performance Analysis Reporting
GPC	Global Processor Complex
GPDC	General Purpose Data Center
GPI	General Purpose Input (PAM adapter)
GPI	Ground Point of Interception
GPII	General Purpose Input Interface
GPI/O	General Purpose Input/Output
GPO	General Purpose Output (PAM adapter)
GPO	Government Printing Office
GPO/GPI	General Purpose Output/General Purpose Input
GPOI	General Purpose Output Interface



GPR	General Purpose Register
GPS	Global Positioning Satellite
GPS	Global Positioning System
GPS/NAVSTAR	Global satellite-based Positioning System
GPSS	General Purpose Simulation System
GPSS	Global Positioning Satellite System (now GPS)
GPWS	Ground Proximity Warning Systems
GQA	Get Quick Answer
GR	hail (ICAO)
GR	soft hail (ICAO)
GRAD	GRADient
GRAMP	Generalized Reliability And Maintainability Program
GRAMS	Generalized Reliability And Maintainability Simulation
GRAPHPRTER	CP GRAPHics PRinTER
GRASP	Generalized Repair And Supply Program
GRBL	GarBLLe
GRBNKS	GRound BaNKS
GRD	GRound
GRADU	GRADUal (ICAO)
GRASS	GRASS landing area (ICAO)
GRDL	GRaDuaL
GRF	Government-Furnished Property
GRI	Group Repetition Interval (LORAN)
GRID	processed meteorological data in the form of GRID point values (aeronautical meteorological code) (ICAO)
GRIP	Generated Routinely Ingested Product
GRITS	Grass Roots Information Technology System
griv	grivation
GRTLKS	GReaT LaKeS
GRVL	GRaVeL
GS	General Scale
GS	Geographic map single-Symbol
GS	Glide Slope (ILS)
GS	Ground Speed
G/S	Ground Station
GS	Group Separator
GSA	General Services Administration
GSA	Government Services Administration
CSAL	General SIM ALtitude (parameter)
GSBCA	General Services Board of Contract Appeals
GSDO	General Safety District Office
GSEC	Geographical SECTOR
GSG	Ground Systems Group
GSI	General Safety Inspector
GSL	General Support Laboratory
GSL	Group Suppression List
GS Lab	General Support Laboratory
GSM	Global Spectral Model
GSSI	Ground Support Systems Integration

GSSP	General SIM SPeed (parameter)
GST	Greenwich Sidereal Time
GSTDN	Ground Satellite Tracking and Data Network
GSTS	GuSTS
GSTY	GuSTY
.GT.	Greater Than
GTC	Gain Time Constant
GTCL	GreaT CircLe
GTDE	General Terminal DElay
GTE	GaTE (FDE tower data)
GTE	General purpose Test Equipment
GTFPARS	Generalized Trace Facility Performance Analysis Reporting System
GTR	Government Travel Request
GTR	GreaTeR
GTSP	General Track SPeed
GV	Grid Value
GV	Grid Variation
GV	Ground Visibility
GVG	GiVinG
GVH	Government VeHicle
GWT	Gross WeighT

H	altitude
H	Haze
H	Heavy jet indicator (FDE tower data)
H	Height
H	High
H	Hold list
H	Homing radio beacon
h	hour
H24	continuous day night service (ICAO)
HA	Hazard Analysis
HAA	Height Above Airport
HAB	Host Acceptance Board
HAB	Host Advisory Board
HAC	Hughes Aircraft Corporation
HADA	Hawaiian Defense Area
HADD	Hawaiian Air Defense Division
HADIZ	Hawaiian Air Defense Identification Zone
HADS	Hawaiian Air Defense Sector
HAI	Helicopter Association International
HAL	Height Above Landing
HAP	Host Acquisition Phase
HAPI	Holding As Previously Instructed
HAPP	High-Altitude Pollution Program
HAS	HAndSet
HASP	Houston Automated Spooling Program
HASP	Houston Automatic Spooling Program
HAT	Height Above Touchdown
HATR	Hazardous Air Traffic Report
HAZ	HAZard
HB	Homing Beacon
HBN	Hazard Beacon (ICAO)
Hc	computed altitude
HC	Hurricane Center
HCAF	Host Center ARTS Facility (parameter)
HCC	Host Computer Complex
HCCB	Hardware Change Control Board
HCCB	Hardware Configuration Control Board
HCD	flight strip printer list processing subroutine (display channel output subsystem)
HCF	Host Command Facility
HCI	PVD tabular processor sub-program (display channel output subsystem)
HCMP	Hardware Configuration Management Plan
HCS	Host Computer System
HCSF	Host Central Support Facility
HCSS	HCS Software
HCTA	Host Center Transfer Accept (parameter)
HCTI	Host Center Initiate Transfer (parameter)
HCTR	Horizontal line CountEr
HCVIS	High Clouds VISible
HCVR	High-Capacity Voice Recorder
HD	Hardware Discrepancy

HD	Horizontal Display
HDA	Head and Disk Assembled
HDA	Head/Disk Assembly
HDAM	Hierarchical Direct Access Method
HDATZ	High-Density Traffic Zones
HDD	Hardware Design Data
HDD	Host Design Document
H-dd	intra-center Handoff initiated to Sector "dd"
HDEP	Haze layer estimated DEeP
HDF	High frequency Direction Finding station (ICAO)
HDFRZ	HarD FReeZe
HDG	HeaDinG (dynamic SIM flight)
HDGR	HeaDinG, automatic return to Route (dynamic SIM flight)
HDL	HeaDinG (ICAO)
HDLc	High-level Data Link Control
HDM	High-Density Metroplex
HDP	Hardware Development Plan
HDPP	Hardware Development Project Plan
HDQ	HeaDQuarters
HDQ	inter-airlines HeaDQuarters office
HDQA	Area HeaDQuarters
HDQD	District office HeaDQuarters
HDQF	sector Field office HeaDQuarters
HDQFA	sector Field Area office HeaDQuarters
HDQFU	sector Field area Unit HeaDQuarters
HDQOU	sector field Office Unit HeaDQuarters
HDQS	Sector office HeaDQuarters
HDQSU	Sector office Unit HeaDQuarters
HDR	Hardware Design Review
HDR	Hardware Discrepancy Report
HDR	High-Density Rectangular
HDR	High-Density Routes
HDSVLY	HuDSon VaLlEy
HDT	High-Density Terminal
HDTA	High-Density-Traffic Airports
HDW	HarDWare
HDWND	HeaDWiND
HDX	Half-Duplex
HE	Human Engineering
HEL	HELIcopter
HELI	HELIport
HEMP	High-altitude ElectroMagnetic Pulse
HEMP	Human Engineering Management Plan
HEP	Hardware Error Processing subsystem
HEPP	Human Engineering Program Plan
HES	HEadSet
HES	Human Engineering Spec (MIL-STD-1472C)
Hex	Hexadecimal
HF	High-Frequency
HF	Human Factors
HF	track-numbered display (table)

HFE	Human Factors Engineering
HFG	Height-Finder Group
HFO	High-Frequency Oscillator
HFR	Hold For Release
HF/SSB	High-Frequency/Single SideBand
HFWG	Human Factors Working Group
HG	conflict alert Group suppression (table)
HG	Host Gateway
Hg	Mercury (as reference to measurement of barometric pressure)
HGFA	High Gross Filter Altitude (parameter)
HGFF	High Gross Filter Frequency
HGFI	High Gross Filter Increment (parameter)
HGT	HeiGhT
HGT	HeiGhT above (ICAO)
HGTP	HG table entry Timeout Parameter (parameter)
HH	Homing radio beacon (High power)
HHE	HouseHold Effects
HHM	PVD display time processor sub-program (display channel output subsystem)
hhmmss	hours-minutes-seconds
HI	Hardware Improvement
HI	Hardware Interface
HI	High
HIALS	High-Intensity Approach Light System
HIBAL	High-altitude BALloon
HICO	Hardware Installation and Check-Out
HID	Horizontal Interval Decoder
HIDAM	Hierarchical Indexed Direct Access Method
HIDEC	Highly Integrated Digital Engine Control
HIEAT	HIghest temperature Equalled for All Time
HIEFM	HIghest temperature Equalled For the Month
HIESE	HIghest temperature Equalled So Early
HIESL	HIghest temperature Equalled So Late
HIFOR	High-level Forecast
HIG	Host Implementation Group
HIO	Halt Input/Output
HI/O	Halt Input/Output
HIPO	Hierarchy plus Input, Processing, and Output
HIPR	Host Interim Problem Reports
HIRIV	How will arRIVAL report be filed concerning ...
HIRL	High-Intensity Runway edge Lights
HIRL	High-Intensity Runway Lights
HIRLS	High-Intensity Runway Light System
HIROCC	HawaiI Regional Operations Control Center
HISAM	Hierarchical Indexed Sequential Access Method
HIT	HCS Implementation Team
HITMP	HIgh TeMPerature
HIU	Host Interface Unit
HIWAS	Hazardous In-flight Weather Advisory Service
HIXAT	HIghest temperature eXceeded for All Time
HIXFM	HIghest temperature eXceeded For the Month

HIKSE	Highest temperature eXceeded So Early
HIKSL	Highest temperature eXceeded So Late
HJ	sunrise to sunset (ICAO)
HJM	reconstitution and display availability processing sub-program (display channel output subsystem)
HL	auto-Handoff initiated to Center "L"
HLdd	initiate inter-center Handoff to Center "L", sector "dd"
HLDG	HoLDing (ICAO)
HLEI	Hold List Eligibility Interval (parameter)
HLF	HaLF
HLI	High-Level Interface
HLI	meter display processor (display channel output subsystem)
HLLL	initiate handoff to ARTS facility "LLL"
HLSTO	HaIL STOnes
HLT	Host Load Tape
HLTP	HiLLToP
HLYR	Haze LaYeR aloft
HM	Hold (message ID)
HMD	Horizontal-Miss Distance
HMI	Human-Machine Interface
HMSR	Hardware Maintenance Status Report
HMTI	Hold Message Time Interval (parameter)
HN	sunset to sunrise (ICAO)
HND	HuNDred
HNGR	HaNGaR
HNHS	Host/Non-Host Status (parameter)
HO	HandOff
HO	Horizontal Output
Ho	observed altitude
H.O.	Hydrographic Office (military)
HO	service available to meet operational requirements (ICAO)
HOFR	HoLD Fix Radius (parameter)
HOI	HandOver status Indicator
HOL	High-Order Language
HOL	HoLiDay
HOLD	present-position HOLD
HoldL	Hold List
HOP	HandOff Point
HOS	Horizontal OScillator
HOSP	HoSPital (ICAO)
HOP	Helicopter Operations
HOST	ATC HOST computer (not an acronym)
HOSTDISK	HOST DISK drive
HOSTIO	HOST I/O channel subsystem
HOSTPRTER	HOST line PRInTER
HOSTTAPE	HOST tAPE drive
HOSTTERM	HOST standard TERMinal
HOT	Hands-On Training
HOTOL	HoRizontal Take-Off and Landing

HP	Hewlett Packard Co.
HP	Holding Pattern
Hp	precompressed altitude
HP	precomputed altitude (celestial)
HPA	HectoPascal (ICAO)
HPA	Holding Pattern Airspace (RWP)
HPG	Height Processing Group
HPMG	HCS Problem Management Group
HPO	High Performance Option
HPPP	Hardware Production Project Plan
HPS	Horizontal Pulse Shaper and driver
HQ	HeadQuarters
HQA	Hardware Quality Assurance
HQAP	Hardware Qualification Assurance Plan
HR	HeRe
hr	hour(s)
HR	Registration data (table)
HRD	Route Display sub-program (display channel output subsystem)
HRDB	Human Resources Data Bank
HRM	Human Resource Management
HRS	Hardware Requirements Specification
HRT	High-Resolution Timer
HRT	High-Resolution Timer sub-program
HRZN	HoRiZoN
HS	E-MSAW alert list (table)
HS	HandSet
HS	HeadSet
HS	service available during hours of scheduled operations (ICAO)
Hs	sextant altitude (celestial)
HSA	Hardware Storage Area
HSA	Hardware System Area
HSA	Horizontal sync Amplifier
HSAM	Hierarchical Sequential Access Method
HSCB	HCS System Control Board
HSD	Horizontal Sync Driver
HSF	High-Speed Filter
HSF	Host Support Facility
HSI	Horizontal Situation Indicator
HSI	Host System Interface
HSIT	Hardware/Software Integration Tests
HS/LS	HandSet/LoudSpeaker
HS/LS	HeadSet/LoudSpeaker
HSLSF	Horizontal Slit Length Scale Factor
HSM	Hierarchical Storage Manager
HSP	High-Speed Printer
HSS	Host Support Services
HT	Horizontal Tabulation
HTI	PVD Track data block processor sub-program (display channel output subsystem)
HTL	Horizontal Total Luminance

HTLDD	Hardware Top-Level Design Document
HTM	PVD Time Message sub-program (display channel output subsystem)
HTN	HeTerodyNe
HTR	Hardware Trouble Report
HTR	HeaTeR
HTR	PVD Track data block processor subroutine (display channel output subsystem)
HUD	Head-Up Display
HUMINT	HUMan INTelligence
HURCN	HURriCaNe
HUREP	HURricane REPort
HV	High Voltage
HVAC	Heating, Ventilating, and Air Conditioning
HVDF	High and Very high frequency Direction Finding stations (ICAO)
HVF	Host Verification at the FAATC (Test Plan)
HVPS	High-Voltage Power Supply
HVY	HeaVY
HW	HardWare
H/W	HardWare
HWCi	HardWare Configuration Item
HWIN	Half-Word INteger
HWMG	HardWare Monitoring Group
HW/SW	HardWare/SoftWare
HWTD	HardWare Test and Diagnostics
HWVR	HoWeVeR
HWY	HighWay
HX	High index
HX	no specific working hours (ICAO)
HYD	HYDraulic
HYDRO	HYDROgraphic
HYR	HighEr (ICAO)
HZ	dust HaZe (ICAO)
HZ	Hertz (formerly cycles per second)
HZW	HaZardous Weather area outline



I	Inbound list
I	Inspection
I	Interface
I	symbol for electric current
IA	Indirect Access
IA	Input Acknowledge
IA	Instruction Address
IA	Integrated Adapter
IA	Integrated Attachment
IA	Interim Altitude
IA-5	International Alphabet, number 5
IAARC	International Administrative Aeronautical Radio Conference
IAATCD	If Authorized by ATC, DME may be used
IAATS	Initial Advanced Automation Training System
IAATS	Interim Advanced Automation Training System
IAATS	ISSS Advanced Automation Training System
IAB	ISSS Advisory Board
IAC	Instantaneous Airborne Count
IAC	Instrument Approach Chart (ICAO)
IACA	Indirect Addressing Communications Area
IACO	Installation and CheckOut
IAF	Initial Approach Fix
IAGC	Instantaneous Automatic Gain Control
IAIS	International Aviation Information System
IAK	Indirect Access Keypad
IAL	Intermediate Activity Level
IALS	Instrument Approach Light System
IAlt	Interim Altitude
IAM	Independent Altitude Monitor
IAMP	InterAgency Motor Pool
IAO	IFR Area Outline (RWP)
IAO	In And Out of clouds (ICAO)
IAP	Improved Accuracy Program
IAP	Initial Approach Procedure
IAP	Instrument Approach Procedures
IAP	InterActive Panel
IAPA	Instrument Approach Procedure Automation
IAR	Instruction Address Register
IAR	Interface Analysis Report
IAR	Intersection of Air Routes (ICAO)
IAS	AS message processor subroutine (inquiry processing subsystem)
IAS	Indicated Air Speed
IAT	Indicated Air Temperature
IATA	International Air Transport Association
IATR	Insert Address Translation Register
IATSC	International Aeronautical Telecommunications Switching Center
IAW	In Accordance With
IAWP	Initial Approach WayPoint
IB	Inhibit Bulk storage processing (message ID)

IBAA	International Business Aircraft Association
IBAG	Interface Buffer Adapter Generator
IBAG	Interface Buffer And Generator
IBASF	Intervals Between Aircraft in Stream-type Formation
IBCSF	Intervals Between Cells in Stream-type Formation
IBCT	Input Buffer Control Table
IBM	International Business Machines
IBM/FSD	IBM/Federal Systems Division
IBN	Identification Beacon (ICAO)
IBND	InBOUND
IBP	BP message processor subroutine (inquiry processing subsystem)
IBR	Input Buffer Register
IC	Ice Crystals (weather reports only)
IC	ICing intensity
IC	Indicator Control (NADIN)
I&C	Installation and Checkout
IC	Instruction Counter
IC	Integrated Circuit
I/C	Integrate! Circuit
IC	Interchange Center
IC	InterCom
ICA	Conflict Alert on/off message subroutine (inquiry processing subsystem)
ICA	Integrated Communications Adapter
ICA	Integrated Communications Attachment
ICA	Inter-facility Communications Adapter
ICAO	International Civil Aviation Organization
ICB	Interface Control Block
ICC	Intelligent Communications Controller
ICCF	Interactive Computing Control Facility
ICCU	Inter-Computer Control Unit
ICD	Interface Control Document
ICD	Interface Control Documents (case file designator)
ICD	Interface Control Drawing
ICE	ICing (ICAO)
ICEF	Interactive Composition and Editing Facility
ICF	CF Message processor subroutine (inquiry processing subsystem)
ICF	Interactive Communications Feature
ICGIC	ICing In Clouds
ICGICIP	ICing In Clouds and precIPitation
ICGIP	ICing in precIPitation
I&CKO	Installation and CheckOut
ICM	Intercenter Coordination Message (message)
ICMP	Internet Control Message Protocol
ICMSSR	Interdepartmental Committee for Meteorological Services and Support
ICNIA	Integrated Communications, Navigation, and Identification Avionics
ICO	Installation and CheckOut

IC/O	Installation and CheckOut
I/CO	Installation and CheckOut
I&CO	Installation and CheckOut
ICP	CP message processor subroutine (inquiry processing subsystem)
ICR	Integrated Cancellation Rate
ICR	Integrated Cancellation Ratio
ICRS	Input Control Sequences
ICS	CS message processor subroutine (inquiry processing subsystem)
ICS	Inter-facility Communications System
ICS	Interim Contractor Support
ICSS	Integrated Communications Switching System
ICSS	Inter-facility Communication Support System
ICST	Institute for Computer Science and Technology
ICU	Integrated Control Unit
ICU	Interactive Chart Utility
ICU	Interface Control Unit
ICU	Interim Capacity Upgrade
ICWG	Interface Control Working Group
ID	IDentification
ID	IDentifier
ID	IDentify (ICAO)
ID	IDentity
ID	InterDigital
ID	Intersection for Departure (FDE tower data)
IDA	DA/DR/DX message processor subroutine (inquiry processing subsystem)
IDA	Institute for Defense Analysis
IDA	Integrated Digital Access
IDAM	Indexed Direct Access Method
IDAT	Interface DATA
IDAT	Inter-facility DATA
IDAW	Indirect Data Address Word
IDB	Data Base message processing sub-program (inquiry processing subsystem)
IDB	TT IDentification Buffer
IDC	Inter-facility Data Channel
IDD	DD message processor subroutine (inquiry processing subsystem)
IDD	Interface Design Document
IDENT	IDENTification (ICAO)
IDENT	aircraft IDENTification
Ident	IDentification
IDF	Intermediate Distribution Frame
IDFC	ISSS Data Format Conversion
IDLD	Internal Departure Logic Distance (parameter)
IDNZ	NAS Center identification (parameter)
IDR	Input Data Request
IDR	Interim Design Review
IDRA	ISSS Data Reduction and Analysis
IDR	TTY IDentify Register

IDS	Identifier Selector
IDS	Input Data Selector
IDS	Interface Design Specification
IDSIPS	Integrated Decision Support & Information Presentation System
IDSW	EIA IDentify 1 and 2 Switches
IDTF	Interactive Display Text Facility
IDU	Interactive Data base Utilities
IDU	Interactive Display Unit
IDW	InterDependency Weight
IEC	E-MSAW control message subroutine (inquiry processing subsystem)
IEC	Industrial Electrification Council
IEE	Institute of Electronic Engineers
IEEE	Institute of Electrical and Electronic Engineers
IEEE-488	common console IEEE-488 adapter
IER	E-MSAW status Request message subroutine (inquiry processing subsystem)
IF	Ice Fog
I/F	InterFace
IF	Inter-Facility
IF	Intermediate approach Fix (ICAO)
IF	Intermediate Fix
IF	Intermediate Frequency
IFA	Fuel Advisory departure subroutine (inquiry processing subsystem)
IFA	Integrated File Adapter
IFAMP	IF Approach Missed, Proceed
IFB	Invitation For Bid
IFCN	Inter-Facility Communications Network
IFCN	Inter-Facility Flow Control Network
IFCON	Internal CONnector Fix
IFD	Inter-Facility Data
IFD	Inter-Facility Data communications
IFD	Inter-Facility Device
IFDC	Inter-Facility Data Channel
IFDMNT	Inter-Facility MaiNTenance program
IFDSim	Inter-Facility Data Set
IFE	FE/FI message processor subroutine (inquiry processing subsystem)
IFF	Identification, Friend/Foe
IFHOL	IF HOLding
IFIM	International Flight Information Manual
IFINS	IF INStrument conditions encountered
IFIX	Internal FIX
IFM	Integrated Flow Management
IFO	International Field Office
IFO	InterphOne
IFONO	InterphOne Not Operative
IFORO	InterphOne Resumed Operations
IFPP	Individual Flight Plans From this Point
IFPP	Instructions For Proposal Preparation

IFR	Instrument Flight Rules
IFRP	Inter-Facility Retransmissions Parameter
IFS	InterFace Specification
I/FS	InterFace Specification
IFSR	International Flight Service Station Receiver
IFSS	Instrumentation Flight Safety System
IFSS	International Flight Service Station
IFST	International Flight Service Station Transmitter
IFT	FT/FO message processor subroutine (inquiry processing subsystem)
IFTC	Initial Fix Time Calculation
IFUN	IF UNavailable
IFVLS	If Flight Visibility becomes Less than
IG	Independent Group
IG	Initializing Gate
IGA	International General Aviation (ICAO)
IGDS	Interactive Graphic Design System
IGI	General Information message processor sub-program (inquiry processing subsystem)
IGIA	Interagency Group on International Aviation
IH	Initial Heading
I&I	Installation and Integration
II	Interrogator Identification
IIA	If Incorrect, Advise
IIAS	Interactive Instructional Authoring System
IIC	Incoming Interoffice Call
I/IFR	Intermittent Instruments (IFR)
IIMA	Installation Issues and Mitigation Approach
IIPS	Interactive Instructional Presentation System
IIS	Interactive Instruction System
IIS	Inventory Item Specification
IIS	IS message processor subroutine (inquiry processing subsystem)
IISD	If Incorrect, Service Direct
IISH	Inventory Item Specification-Hardware
IISS	Inventory Item Specification-Software
IIT	Installation, Integration, and Test
II&T	Installation, Integration, and Test
IIT	Integrated Interface Test
IJ	Internal Junction
ILAS	Instrument Low Approach
ILDN	Input eligibility (adaptation record)
ILET	Inbound List Eligibility Time (parameter)
I/LG	Implementation/Logistics Group
ILM	Intermediate-Level Maintenance
I/LMG	Implementation/Logistics Monitoring Group
ILS	Instrument Landing System
ILS	Instrument Landing System general (case file designator)
ILS	Integrated Logistics Support
ILS	Integrated Logistics System
ILSM	Integrated Logistics Support Management

ILSM	Integrated Logistics Support Manager
ILSMT	Integrated Logistics Support Management Team
ILSP	Integrated Logistics Support Partial
ILSP	Integrated Logistics Support Plan
ILST	Integrated Logistics Support Team
IM	Inner Marker (ILS)
IMAP	IMmediately After Passing
IMC	Instrument Meteorological Conditions
IMCS	Interim Maintenance and Control System
IMCS	Interim Monitoring and Control Software
IMD	Interactive Map Definition
IMDT	IMmeDiaTe
IMER	Input Map Eligibility (adaptation Record)
IMF	Intermediate Maintenance Facility
IMF	Interrogation sign
IMG	Implementation Monitoring Group
IMG	IMmiGration
IMG	Interface Management Group
IMIB	Input Message Interface Block
IML	Initial Microcode Load
IML	Initial Microprogram Load
IMLSA	Interim Microwave Landing System Azimuth
IMLSE	Interim Microwave Landing System Elevation
IMN	Interim Message Number
IMP	IMPractical
IMP	Interface Management Plan
IMPL	IMPuLse
IMPLTN	IMPLementaTion
IMPP	Interface Management Program Plan
IMPR	IMPRove (ICAO)
IMPR	IMPRoving (ICAO)
IMPT	IMPortant
IMS	Information Management System
IMS	Initiate Mode Startover (DCC)
IMSPARS	IMS Performance Analysis Reporting System
IMT	IMmediaTe
IMT	IMmediaTely (ICAO)
IMT	Intcgral Magnetic Tape
IN	adapted fix (Table)
in.	inch(es)
IN	INsert
INA	INitial Approach (ICAO)
INACS	Integrated National Airspace Communications System
INADQT	INADeQuaTe
INATS	INteraction of Air Traffic Services
INBD	INBound
INBUF	unBUFFered INput device defining data record (adaptation record)
INC	IN Clouds (ICAO)
INC	INCorporated
INC	INCcrease
INCERFA	unCERTainty phAse code

INCL	INCLude
INCLV	INCLusive
INCO	INStallation and CheckOut
INCOMP	INCOMPlete
INCOR	INCORrect
INCPT	INterCePT
INCR	INCRease
Incr.	Increment
ind	indicated
INDC	INDiCate
INDEF	INDEFinite
INDUS	INDUStrial
INEWS	INtegrated Electronic Warfare System
INF	Inland Navigation Facility
INF	Intermediate-range Nuclear Force
INFO	INfOrMation
INFO/MGT	INfOrMation/ManaGement
INFO/SYS	INfOrMation/SYStem
INIT	INITial Training
INLD	INLand
INMARSAT	International MARitime SATellite
INMARSAT	International MARitime SATellite organization
INMARST	International MARitime Satellite
INN	ISSS NAS NCP
INOP	INOPerative
INP	If Not Possible
INPR	IN PRogress (ICAO)
INQP	INquiry Processing subsystem
INREQ	INformation REquest
INS	INches (ICAO)
INS	Inertial Navigation System
INS	Information Network Services
INSAC	InterState Airway Communications
INSECT	COMPOOL INterSEction (NOSS utility program)
INSN	ISSS NAS Support NCP
INSP	INSpect
INST	INSTrument
INSTA	INSTruments Authorized
INSTA	InterSTATE
INSTBY	INSTaBility
INSTL	INSTall
INSTL	INSTaLled (ICAO)
INSTL	INSTaLlation
INSTR	INSTRument
INSUF	INSUfficient scheduled time available
INSUF	unable to finish
INT	INTEgrator
INT	INTERmediate
INT	INTERNAL
INT	INTERNational
INT	INTERsection
INT	INTERval

INT CLRD	INTERvention CLearEd
INTCNL	INTERcoNTinental
INTCP	INTERCePt
INTE	INTEgration Test and Evaluation
INTEG	INTEGration
INTELSAT	International TELEcommunications SATellite organization
INTER	INTERmittent (ICAO)
INTFC	INTERFerenCe
INTI	INTER-facility Input (PAM adapter)
INTL	INTERNational
INTMD	INTERMediate
INTMT	INTERMiTtent
INTO	INTER-facility Output (PAM adapter)
INTR	INTERior
INT REQ	INTERvention REQuired
INTRG	INTERroGator (ICAO)
INTRMTRGN	INTER-MounTain REGiON
INTRO	Internal TRaffic Operations
INTRP	INTERRuPt
INTRP	INTERRuption (ICAO)
INTRP	INTERRuPted (ICAO)
INTS	INTenSe
INTSF	INTenSiFy (ICAO)
INTSF	INTenSiFying (ICAO)
INTST	INTenSiTy (ICAO)
INTXN	INTERsection
INV	INValid
INV	INValid message labels
INV	INVert
INV	INVerter
INVES	INVESTigate
INVOF	IN the Vicinity OF
INVRN	INVeRsion
INVSTAR	INVeSTigate And Report
INWATS	INcoming Wide Area Telecommunications System
INWP	INTERmediate WayPoint
IO	Input/Output
I/O	Input/Output
IO	Integration and Operations
IOC	Initial Operating Capability
IOC	Initial Operational Capability
IOC	Input/Output Control
IOC	Input/Output Controller
IOC	Input/Output Control table
IOCB	Input/Output Control Block
IOCE	Input/Output Control Element
IOCEP	Input/Output Control Element Processor
IOCE-P	Input/Output Control Element Processor
IOCP	Input/Output Control Processor
IOCP	ISSS ATC Operational
IOCS	Input/Output Computer Services, Inc.



IOCS	Input/Output Computer System
IOCT	Input/Output Control Table
IOCT	Input/Output Control Terminal
IOCU	Input/Output Control Unit
IODCC	I/O Device Dependent Code Monitor subsystem
IODDCS	Input/Output Device-Dependent Code Subsystem
IOEAS	Input/Output Error Analysis Subsystem
IOEC	Input/Output Event Control
IOF	Interactive Output Facility
IOMS	Input/Output Management Subsystem
IOP	Input/Output Processor
IOPB	Input-Output Processor "B"
IOPDIAG	COTS CC I/O Processor DIAGnostics
IOS	Input/Output Supervisor
IOS	Interfacility Outputs Subsystem
IOT	Input/Output Teletype
IOT	Input/Output Terminal
IOT	Input/Output Typewriter
IOT	Input/Output Typewriter subsystem (case file designator)
IOT	IOT output routing (adaptation record)
IOT&E	Independent Operational Test and Evaluation
IOT&E	Independent Operations Test and Evaluation
IOT&E	Initial Operational Test and Evaluation
IOTMNT	IOT MaiNTenance program
IOTP	Input/Output Typewriter Subsystem
IOVC	In OVerCast
IP	Ice Pellets
IP	Identification of Position
IP	Implementation Plan
IP	Initial Point
IP	Instructor Pilot
IP	Internet Protocol
IP	InterPhone
IPA	Indicated Pressure Altitude
IPA	Integrated Printer Attachment
IPADS	Interactive Processing And Display System
IPAT	Interface Path Analyzer Tester
IPC	Intermittent Positive Control
IPCS	Interactive Problem Communications System
IPCS	Interactive Problem Control System
IPD	In-Plant Demonstration
IPE	Input Parity Error
IPF	Interactive Productivity Facility
IPG	Instructional Program Guide
IP/HHCL	Initial Point/H-Hour Control Line
IPIT	Improved Productivity Implementation Techniques
IPL	Initial Program Load
IPM	Independent Position Measuring system
IPMS	Integrated Project Management System (ARTEMIS)
IPO	Installation Productivity Option
IPQT	Interface Preliminary Qualification Test

IPR	In-Progress Review
IPS	Inches Per Second
IPS	Interactive Process Simulator
IPS	IOPB Subsystem
IPS	PS/IW message Processor Subroutine (inquiry processing subsystem)
IPU	Instruction Processing Unit
IPV	ImProVe
I&Q	In-phase and Quadrature-phase signal accuracy
IQU	InQuiry processing subroutine (inquiry processing subsystem)
IR	auto track Initiation point (table)
IR	ICD Revision
IR	Ice on Runway
IR	IFR military training Route
IR	Incident Report
IR	Index Register
IR	Information Retrieval
IR	InfraRed
I&R	Initialization and Reconstitution
IR	Instruction Register
IR	Instrument Route
IR	Interface Requirements
IR	Interrogation Request
IRAC	Interdepartmental Radio Advisory Committee
IRAD	Inbound RADial
IRAD	Independent Research And Development
IRBT	Integrated Radar Beacon Tracking
IR&D	Independent Research and Development
IR&D	Internal Research and Development
IRD	Interface Requirements Document
IRD	Radar Data base message processor sub-program (inquiry processing subsystem)
IREG	IrREGular
IRFF	Interrupt Request Flip Flop
IRIG	Inter-Range Instrumentation Group
IRM	conflict alert status Message subroutine (inquiry processing subsystem)
IRM	Information Resources Manager
IRMA	a communications product allowing a PC to emulate a CRT
IRMC	Information Resources Management Committee
IRMEX	IRM EXecutive committee
IRMP	Information Resources Management Plan
IRMPO	Information Resources Management Program Office
IRR	Instrumentation Recorder/Reproducer equipment (case file designator)
IRS	Interface Requirements Specification
IRSP	Information Resources System Plan
IRSTS	InfraRed Search and Tracking System
IS	Independent Surveillance
I/S	Information Services

IS	Inhibit Send
IS	Inhibit transmission (message ID)
IS	International Standard
IS	ISland
ISA	Instruction Set Architecture
ISA	International Standard Atmosphere (ICAO)
ISA	SA message processor subroutine (inquiry processing subsystem)
ISAM	Indexed Sequential Access Method
ISB	Independent SideBand
ISB	Input StroBe
ISB	Inverted Side Band
ISC	Integrated Storage Control
ISC	Inter-System Communications
ISCC	ISSS Support Computer Complex
ISCII	International Standard Code for Information Interchange
ISD	Instructional System Development
ISDN	Integrated Services Digital Network
ISET	Integrated System Engineering Team
ISF	Inner System File
ISG	SG message processor subroutine (inquiry processing subsystem)
ISID	In/out Service Indicator Drivers
ISIL	Interim Support Items List
ISJTA	Intensive Student Jet Training Area
ISLS	Improved Side Lobe Suppression
ISM	Integral Service Monitor
ISMC	ISSS System Monitor and Control
ISMGR	ISland ManaGeR
ISMLS	Interim Standard Microwave Landing System
ISO	Independent Sales Organization
ISO	International Standards Organization
ISOL	ISOLate
ISOL	ISOLated (ICAO)
ISO-OSI	International Standards Organization - Open System Interconnection
ISP	ISSS Sector Processing
ISPF	Interactive System Productivity Facility (CMS dialogue manager)
ISPF/PDF	ISPF/Program Development Facility
ISPI	Inbound Strip Print Interval (parameter)
ISS	Initial Sector Suite
ISSAC	Initial Site Support Allowance Chart
ISSAC	Initial Supply Support Allowance Charts
ISSS	Initial Sector Suite Subsystem
ISSS	Initial Sector Suite System
IST	Independent Software Test
IST	Integrated System Test
IST	ST message processor subroutine (inquiry processing subsystem)
ISUP	ISSS OSS SUPport

IS&WE	Initial Supplies and Working Equipment
ISWG	Inter-Service Working Group
IT	Inhibit Transfer flight to Air Defense
IT	Integrated Tracker
I&T	Integration and Test
IT	list display data (table)
ITA	Indicated True Altitude
ITA-2	International Telegraph Alphabet, number 2
ITAG	Independent Technical Assessment Group (Host)
ITAP	Interim Track Analysis Program
ITAR	Inhibit TAR Recordings
ITBTB	message processor subroutine (inquiry processing subsystem)
ITCTC	message processor subroutine (inquiry processing subsystem)
ITD	Interaction Technique Diagram
ITE	Input Timing Error
IT&E	Integration, Test, and Evaluation
ITNRT	ITiNeRanT
ITNRY	ITiNeraRY
ITO	Instructions To Offerors
ITP	Integrated Test Program
ITR	Integration Test Review
ITR	Internal Trouble Report
ITRP	Intercenter Transmission Retry Parameter (parameter)
ITRR	Informal Test Readiness Review
ITRR	Internal Test Readiness Review
ITSS	Integrated Tactical Surveillance System
ITSU	Information Technology Standards Unit
ITT	Independent Test plan and Test procedure
ITT	Integration and Test Team
ITTP	Intercenter Track Timeout Parameter (parameter)
ITU	International Telecommunications Union
ITUI	Intercenter Track Update Interval (parameter)
IU	Crosstell track Index array (table)
IUP	Installed User Program
IUTIL	ISSS OSS UTILity
IUW	UW message processor subroutine (inquiry processing subsystem)
IVFRC	In VFR Conditions
IVRS	Interim Voice Response System
IV&V	Independent Validation and Verification
IV&V	Independent Verification and Validation
IW	Inhibit Waiting response (message ID)
IWS	Intelligent Work Station
IWX	WX message processor subroutine (inquiry processing subsystem)
IXC	Interchange Channel
IZ	flight plan Integration (table)

JA	SIM altitude (message ID)
JAI	Joint Acceptance Inspection
JAL	Jet Approach Landing
JALT	Jet ALTitude
JAN	JANuary
JAN/MIL	Joint Army-Navy/MILitary
JATO	Jet-Assisted TakeOff
JAWOP	Joint Automated Weather Observation Program
JAWS	Joint Airport Weather Studies
JAWS	Joint Aviation Weather Studies
JAWYS	Join AirWaYS
JB	Beacon test message (table)
JB	SIM Beacon (message ID)
J-BAR	Jet runway BARrier
JC	SIM target reliability (message ID)
JCL	Job Control Language
JCTN	JunCTion
JD	SIM Display (message ID)
JDOP	Joint Doppler Operational Project
JDS	Job Development System (IMS)
JE	SIM stop (message ID)
JEDEC	Joint Electronic Device Engineering Council
JEP	Job Entry Program
JES	Job Entry Subsystem
JES	Job Entry System
JF	Fixed search test message (table)
JH	SIM Heading (message ID)
JIG	cost/schedule control systems criteria Joint Implementation Guide
JIG	Joint Implementation Guide
JIM	Journal Interface Module
JIWP	Joint Interim Working Party
JM	SIM offset data block (message ID)
JNF	Job Networking Facility
JO	SIM start (message ID)
JOUR	JOURneymen
JOVFORM	JOVIAL structured listing FORMatter (NOSS utility program)
JOVIAL	Jule's Own Version of International Algebraic Language
JOVIAL	Jule's Own Version of International Algorithmic Language
JOVINCL	JOVIAL source INCLude program (NOSS utility program)
JP	Jet Penetration
JPAP	Jet Penetration Approach
JPCG-CRM	Joint Policy Coordination Group on Computer Resource Management
JPL	Jet Propulsion Laboratory
JPM	Job Performance Measures
JPO	Joint Program Office

JQB	QAK code organizer sub-program (track data processing subsystem)
JQD	CRD (QD) message type sub-program (track data processing subsystem)
JQN	QAK (QN) message processor sub-program (track data processing subsystem)
JQP	QAK PVD and QAK AUTO HAND organizer sub-program (track data processing subsystem)
JQR	reported altitude, interim altitude, and flight plan readout processing sub-program (track data processing subsystem)
JQT	QAK track organizer sub-program (track data processing subsystem)
JQUQAK	QU processor sub-program (track data processing subsystem)
JR	SIM climb/descent rate (message ID)
JS	SIM speed (message ID)
JS	status message (table)
JSC	Johnson Space Center
JSP0	Joint System Program Office
JSS	Joint Surveillance Site (FAA/DOD)
JSS	Joint Surveillance System (FAA/DOD)
JTA	Job Task Analysis
JTA	TA message processor sub-program (track data processing subsystem)
JTI	TI message processing sub-program (track data processing subsystem)
JTIDS	Joint Tactical Information Distribution System
JTMLs	Joint Tactical Microwave Landing System
JTMT	Joint Test Management Team
JTR	JeT Routes (RWP)
JTS	Job Training Standard
JTST	JeT Stream (ICAO)
JTSTR	JeT Stream
JTU	track update message processor sub-program (track data processing subsystem)
JTWG	Joint Test Working Group
JUL	JULy
JUN	JUNe
JVX	Joint Vertical lift aircraft
J.W.C.	James W. Collins & Associates, Inc. (a support contractor)

K	cold (air mass)
K	Kelvin (degrees)
k	kilo (thousands)
K	Knots
K	smoke (weather reports only)
KA	radar sortbox readout (message ID)
kb	Kilobit
Kb	Kilobytes
KB	trackball coordinates readout (message ID)
KBD	KeyBoarD
KBP	KeyBoard Printer
KBPS	KiloBytes Per Second
KBS	Knowledge-Based System
Kb/sec	Kilobytes per second
KBYTES	KiloBYTES
kc	kilocycles
KCP	Keyboard Communications Processor
KCU	KVDT Control Unit
KDC	Keyboard Device Controller
K-dd	intracenter handoff accepted with /OK at sector "dd"
KDEP	smoke layer estimated ... (feet) DEeP
KDM	Key Decision Memorandum
KDP	Key Decision Point
KDP	Keyboard/Display Port
KDSI	thousands of Delivered Source Instructions
KE	Keyboard Encoder
KEPOA	KEeP this Office Advised
KES	Knowledge Engineering Shell (AI Shell)
KEW	Kinetic Energy Weapons
KFRST	Killing FRoST
Kg	Kilograms
kHz	kilocycles (1000 cycles) per second
kHz	kilohertz
KI	K Index
KIAS	Knots of Indicated Airspeed
KILO	one thousand
KIM	Keyboard Interface Module
KIP	Keyboard Interrupt Processing
KIT	Knowledgeable Integration Team
KK	intermediate route record (table)
KLdd	intercenter handoff accepted with/OK at Center "L", sector "dd"
KLYR	smoke LaYeR aloft
KM	Keyboard Multiplexer
km	kilometer
KM	KiloMeter
KMC	International Aeronautical Telecommunications Switching Center (KMKM) (case file designator)
KMH	KiloMeters per Hour (ICAO)
KMO	International Aeronautical Telecommunications Switching Center (Ops.) (case file designator)

KMO	Keyboard Message Organizer
KMX	Keyboard Matrix
KN	system reconfiguration (table)
K/O	KickOff
KOCTY	smoke Over CiTY
KOF	Keyboard Operational Function processing
KP	Key Pulse
KP	Keypunch Operator
KPA	KiloPascal (ICAO)
KPC	Key Pad Connector
KPR	Keyboard Printer
KPR	KVDT Printer Radar sort box X number (parameter)
KRYN	Radar sort Box Y Number (parameter)
KS	Key Site
KSDS	Key Sequenced Data Set (VSAM)
KSI	dynamic Simulation Input processing subroutine (track data processing subsystem)
KSLOC	thousands of Source Lines Of Code
KSM	dynamic Simulation control subprogram (track data processing subsystem)
KSR	Keyboard Send/Receive (NADIN)
KSS	dynamic Simulation Startover subroutine (track data processing subsystem)
KSU	dynamic Simulation Update processor subroutine (track data processing subsystem)
KT	KnoT
KT	KnoTs
KTP	Key Transition Point
KTR	Keyboard send-receive Typing Reperforator set
kV	kiloVolts
kVA	kiloVolt Ampere
KVDT	Keyboard Video Display Terminal
KVDTS	KVDT System
KVDU	Keyboard Visual Display Unit (NADIN)
kV/M	kiloVolts per Meter
KVT	Keyboard Video Terminal
kW	kiloWatt
kWH	kiloWatt Hour(s)



L	clearance indicator (FDE tower data)
L	drizzLe (weather reports only)
L	Left (runway identification)
L	Locator (see LM, LO)
L	Logistics
L	Low
L&A	Legal and Analysis (tape)
LA	Low Approach
LA	range/bearing readout (message ID)
LAAS	Low Altitude Alert System
LAB	LABoratory
LABRDR	LABRaDoR
LABS	Los Angeles Basic Study
LABS	Low-Altitude Bombing System
LACO	preferred or supplementary long run length threshold (parameter)
LADR	Legal and Analysis Data Recording
LAEA	Lateral Association check deviation (En Route) for condition where assigned altitude $\leq$ ASLA (parameter)
LAEB	Lateral Association check deviation (En Route) for condition where ASLA < assigned altitude $\leq$ ASLB (parameter)
LAEC	Lateral Association check deviation (En Route) for condition where ASLB < assigned altitude $\leq$ ASLC (parameter)
LAED	Lateral Association check deviation (En Route) for condition where assigned altitude > ASLC (parameter)
LAM	Last Address of Module
LAM	Logical AcknowledgEMent (message type designator) (ICAO)
LAM	LORAN C Aviation Monitor
LAN	inLANd (ICAO)
LAN	Local Area Network
LANC	Local Area Network Controller
LANS	Local Area Network System
LAP	Link Access Protocol
LAPB	Link Access Protocol Balanced
LAPAP	Load And Performance Analysis Program
LAPB	Link Access Procedure Balanced
LAP-B	Link Access Protocol B-channel
LARCT	Last Radio ConcepT
LAT	LATitude
LAT	Local Apparent Time
LATA	Lateral Association check deviations for assigned altitude $\leq$ ASLA (parameter)
LATA	Local Access and Transport Area
LATB	Lateral Association check deviation (turn) for condition where ASLA < Assigned Altitude $\leq$ ASLB (parameter)

LATC	Lateral Association check deviation (turn) for condition where ASLB < assigned altitude ≤ ASLC (parameter)
LATD	Lateral Association Check Deviation (Turn) for Condition Where Assigned Altitude > ASLC (parameter)
LAT/LONG	LATitude and LONGitude coordinates
LAWRS	Limited Aviation Weather Reporting Station
LAWRS	Limited Aviation Weather Reporting System
lb	pound(s)
LB	range/bearing/fix readout (message ID)
LBP	Local BANS Processor
LBX	teletype model 28 transmitter distributor
LC	fix/time readout (message ID)
LC	Local Control
LC	Local Coordinator
LC	Logic Card
L/CAM	Lead/Cost Account Manager
LCC	Launch Control Center
LCC	Life Cycle Cost
LCC	Lighting Control Console
LCD	Line Counter Decoder
LCD	Liquid Crystal Display
LCFF	Loran C Flight Following
LCIOT	LoCal IOT device (adaptation record)
LCIU	LoCal communication Interface Unit
LCL	Lifting Condensation Level
LCL	LoCaL
LCL	LoCaLly
LCN	Local Communications Network
LCN	LSA Control Number
LCNDIAG	COTS CC LCN Adapter DIAGnostic
LCNHW	LCN adapter
LCP	Local Change Proposal
LCS	Large Capacity Storage
LCS	Loadable Control Store
LCT	Local Civil Time
LCT	LoCaTe
LCTMP	Little Change in TeMPerature
LD	Line Driver
LD	Long Distance
LDA	Landing Distance Available (ICAO)
LDA	Load Data Address
LDA	Local Data Area
LDA	Localizer-type Directional Aid
LDB	Limited Data Block
LDBP	Limited Data Block Parameter (parameter)
LDD	Lightning Detection Data
LDDA	Logical Disk Device Address
LDDA	Logical Disk Drive Address
LDDI	Local Distributed Data Interface
LDG	LandinG

LDI	Landing Direction Indicator (ICAO)
LDIN	LeaD-In Lighting system
LDIN	LeaD-In Lights (sequenced and flashing)
LDL	Local Dialing Line
LDM	Logical Display Management
LDN	Logical Device Number
LDN	Logical Device Number record (adaptation record)
LDNOUT	adapted OUTput message routing record (adaptation record)
LDS	Logical Device Symbol
LDU	Link Diagnostic Unit
LE	Leading Edge
.LE.	Less than or Equal to
LEC	Local Exchange Company
LED	Light Emitting Diode
LEM	Logical End of Media
LEN	LENgth (ICAO)
LEO	Low Earth Orbit
LEPP	Live Environment Performance Program
LERI	Local Error Referral Interval (parameter)
LETFO	LETters Follow
LF	Line Feed
LF	Low Frequency
LFC	Laminar Flow Control
LFC	Level of Free Convection
LFCR	Line Feed/Carriage Return
LFM	Limited area Fine Mesh
LFNT	Low Frequency iNTERception
LFO	Low-Frequency Oscillator
LFR	Low-Frequency directional aid
LFR	Low-Frequency Radio range
LFT	LiFT
LG	holding pattern LeG, minutes (dynamic SIM flight)
LGC	Last Good Code
LGD	holding pattern LeG, Distance in miles (dynamic SIM flight)
LGRNG	Long RaNGe
LGS	LoGistics Service
LGSM	Local/Group System monitor & mode Management
LGT	LiGHt
LGT	LiGHting (ICAO)
LGTD	LiGHted (ICAO)
LGWV	Long WaVe
LHA	Local Hour Angle
LHX	Light scout/attack/utility Helicopter
LI	Length Indicator
LI	Lifted Index
LI	Load Identity
LI	Location Identifier
LIB	LiBrary
LIBANLZR/	
LINSCT2	LiBrary ANaLyZeR (NOSS utility program)

LIBRARY	OS services LIBRARY subroutines (NOSS utility program)
LIBEDT	OS LIBRARY EDiT (NOSS utility program)
LIC	Line Interface Coupler
LICOF	land LINES COMMUNICATIONS FACILITIES
LIDAR	Light Detection And Ranging
LIDD	Level I Design Document
LIFO	Last In First Out
LIFR	Low IFR (weather reports only)
LIH	Light Intensity High (ICAO)
LIL	Light Intensity Low (ICAO)
LIM	Light Intensity Medium (ICAO)
L/IMG	LCN/Interface Monitoring Group
LIIC	Line Interrupt Indicator Control
LIN	Low-INTensity runway
LINEPRTER	CP LINE PRINTER
LINK-EDIT	COTS LINK EDITOR
LIP	Limited Installation Program
LIPR	Line Input Register
LIRL	Low-Intensity Runway Lights
LIS	LCN Interface Software
LIS	Log In System
LIS	Logistics Integration Support
LIS	Logistics Inventory System
LISP	LIST Processing
LIST	source change control processor (NOSS support program)
LIU	LAN Interface Unit
LIU	LCN Interface Unit
LIUHW	LIU Hardware
LIVQ	LIVING Quarters
LK	LaKe
LKLY	LiKeLY
LL	Land Line
LL	Leased Line(s)
LL	List Length
LLC	Logical Link Control
LLCA	Long Lines Common Answering
LLCSC	Lower-Level Computer Software Component
LLTIL	Long Lead-Time Items List
LLWAS	Low-Level Windshear Alert System
LLWS	Low-Level WindShear
LLWSAS	Low-Level WindShear Alert System
LLZ	Localizer (ICAO)
LM	Load Module
LM	Locator, Middle (ICAO)
Lm	midLatitude
LMDN	Local MiDNight (parameter)
L/MF	Low/Medium Frequency
LMG	Logistics Monitoring Group
LMM	compass Locator at ILS Middle Marker
LMS	COTS Library Manager

LMS	Link Monitoring System
LMT	LiMiT
LMT	Local Mean Time
LMU	Link Monitor Unit
LN	LiNe
LN	LORAN
LND	LaND
LNDG	LaNDing
LNG	LoNG (used to indicate the type of approach desired or requested) (ICAO)
LNKR	LiNK Repeater
LNM	binary search subroutine (flight data processing)
L.O.	Level Off
LO	Liaison Office
LO	Locator, Outer (ICAO)
LOA	Letter Of Agreement
LOC	ILS LOCalizer
LOC	Lines Of Code
LOC	LOCal
LOC	LOCally (ICAO)
LOC	LOCation (ICAO)
LOC	LOCated (ICAO)
LOCID	LOCation IDentifier
LOCKID	compool table priority record (adaptation record)
LOCOR	Local CoORDinator
LOCT	LOCal device record
LODISNAV	Long DISTance NAVigation
LOE	Level Of Effort
LOEA	Longitudinal Association check deviation (En Route) for condition where assigned altitude $\leq$ ASLA (parameter)
LOEAT	Lowest temperature Equalled for All Time
LOEB	Longitudinal association check deviation (En Route) for condition where ASLA < assigned altitude $\leq$ ASLB (parameter)
LOEC	Longitudinal association check deviation (En Route) for condition where ASLB < assigned altitude $\leq$ ASLC (parameter)
LOED	Longitudinal association check deviation (En Route) for condition where assigned altitude > ASLC (parameter)
LOEFM	Lowest temperature Equalled for the Month
LOESE	Lowest temperature Equalled So Early
LOESL	Lowest temperature Equalled So Late
LOF	Level Off indicator
LOFF	LORAN C Flight Following
LOGICON	Logicon, Inc. (a support contractor)
LOM	compass Locator at ILS Outer Marker
LOM	Locator Outer Marker
LONG	LONGitude
LOP	Line of Position
LORAC	Long-Range aCCuracy

LORAN	Long-Range Aid to Navigation
LORAN	Long-Range Navigation (System)
LOS	Line of Sight
LOTMP	Lowest TeMPerature
LOWAT	LOW Altitude air-to-air Training
LOXAT	Lowest temperature eXceeded for All Time
LOXFM	Lowest temperature eXceeded For the Month
LOXSE	Lowest temperature eXceeded So Early
LOXSL	Lowest temperature eXceeded So Late
LP	Let traffic Pattern
LP	Linear Polarization
LP	Linear Programming
LP	Line Printer
LP	Liquid Propane
LPA	Linear Power Amplifier
LPAR	Logically PARTitioned
LPATS	Lighting, Positioning And Tracking System
LPC	Line Printer Control (NADIN)
LPDA	Link Problem Determination Aid
LPEP	Leapfrog Program Execution Plan
LPI	Lines Per Inch
LPM	Lines Per Minute
LPS	Line Printer Spooling
LPSB	Load Preferential Storage Base address (instruction)
LPSW	Load Program Status Word
LQA	Link Quality Analysis
L-R	Left to Right
LR	Line Receiver
LR	Luminance Ratio
LRA	Landing Right Airport
LRC	Longitudinal Redundancy Check
LRCO	Limited Radio Communications Outlet
LRCO	Limited Remote Communications Outlet
LRCOM	Long-Range VHF/UHF COMMunications
LRCT	Legal Recording Control Table
LRDA	Lost Radar Display Absent (parameter)
LRDP	Lost Radar Display Present (parameter)
LRE	Latest Revised Estimate
LRG	LaRGe
LRG	Long RanGe
LRI	Line Repairable Item
LRI	Line Replaceable Item
LRI	Lowest Repairable Item
LRI	Lowest Replaceable Item
LRP	Last Recorded Position
LRP	Long-Range Plan
LRR	Long-Range Radar
LRR	Long-Range Radar and monitors (case file designator)
LRRCD	Long-Range Radar Common Digitizer
LRS	Lake Reporting Service

LRSC	Lowest Replaceable Software Component
LRSM	Line-Replaceable Software Module
LRU	Line Repairable Unit
LRU	Line Replaceable Unit
LRU	Lowest Repairable Unit
LRU	Lowest Replaceable Unit
LS	Left Side
LS	Loud Speaker
LS	Low Speed
LSA	Large Search Area
LSA	Logistics Support Analysis
LSAR	Local Store Address Register
LSAR	Logistics Support Analysis Record
LSB	Large Sort Box
LSB	Least-Significant Bit
LSC	Logistic Support Cost
LSD	Large Screen Display
LSFR	Local Store Function Register
LSI	Large Scale Integration
LSI	Looped Sim Interface
LSM	Last System Module
LSM	Local Switching Module
LSP	Low-Speed Printer
LSQ	Line Squall (ICAO)
LSR	Loose Snow on Runway
LSR	Low-Speed Relay
LSS	Logic Support Station
LSSG	Lead Sector Software Group
LSSS	Laboratory Signal Switching System
LST	Local Sidereal Time
LST	Local Standard Time
LSU	Line Switching Unit
LT	Left Turn
.LT.	Less Than
LTC	Long Time Constant
LTD	LimiteD
LTDS	Long-Term Data Set (parameter)
LTF	Local Training Flight
LTFC	Landing Traffic
LTFF	Low Tape Flip Flop
LTG	LighTning
LTGCC	LighTning Cloud-to-Cloud
LTGCG	LighTning Cloud-to-Ground
LTGCW	LighTning Cloud-to-Water
LTGIC	LighTning In Clouds
LTHD	Large Turn Heading Difference (parameter)
LTL	LiTTle
LTLCG	LiTTle ChanGe
LTNG	LighTning
LTR	LaTeR
LTR	LeTteR
LTRC	Landing TRaffic

LTRS	LeTteR(s) Shift (on keyboard)
LTT	LandLine Teletypewriter (ICAO)
LU	Logical Unit
LUAR	Log-on Usage Analysis Report
LV	LeaVing
LV	Light and Variable (relating to wind) (ICAO)
LV	Low Voltage
LVE	LeaVE (ICAO)
LVE	LeaVing (ICAO)
LVG	LeaVinG
LVL	LeVeL
LVLOF	LeVeL OFF
LVPS	Low Voltage Power Supply
LWAS	Low-level Windshear Alert System
LWR	LoWeR
LYR	LaYeR
LYR	LaYeRed
LYR	LaYeRs



M	MIS controller
M	controller information symbol (FDE tower data)
M	Mach number
M	Maintainability
M	Maritime (air mass)
M	Measured ceiling (weather reports only)
M	Mega
m	meter(s)
M	Metering list
m	milli (thousandths)
M	Million(s)
M	Missing (weather reports only)
M	Modification of active/proposed flight plan
M	Moment
M	Mountain standard time
M	thousand
M-1 Console	Console containing the PVD
M-1FC	Model 1 Full Capacity
MA	Map Analysis
MA	Master "A" 1052 typewriter
mA	milliAmperes
MA	Missed Approach
MA	MSAW Alert
MAA	Maximum Authorized Altitude (IFR)
MAC	Management Action Center
MAC	Media Access Control
MAC	Military Airlift Command
MAC	Months After Contract award
MACH	MACH number (speed ratio to speed of sound)
MACH	MACH storage program priority record (adaptation record)
MACH	Maintenance And CHannel storage
Mach	speed relative to speed of sound
Mach/IAS	Mach/Indicated AirSpeed
MACKAY	MACKAY Radio and Telegraph Company
MACLO	Military Airlift Command Liaison Officer
MACM	Months After Contract Modification
MACS	Military Aeronautical Communications System
MACVFR	Make Altitude Changes VFR
MAD	Maintenance Alert Directive
MAEW	Men And Equipment Working
MAFAP	Minimum Altitude over facility on Final Approach course
MAFL	Minimum Assignable Flight Level
MAG	MAGnetic
MAGSI	Minimum ALtitude at Glide Slope Intersection inbound
Maint	Maintenance
MAITS	Meeting and Action Item Tracking System
MAITS	Meeting And Information Tracking System
MAL	Maintain At Least
MAL	Major Activity Level

MAL	MALSR (case file designator)
MALA	Mode-S/ASR-9 Line Adapter
MALF	MALFunction
MALS	Medium-intensity Approach Lighting System
MALSF	Medium-intensity Approach Lighting System (with sequenced Flashing lights)
MALSR	Medium-intensity Approach Lighting System (with Runway alignment indicator lights)
MAM	Maintenance Assumes Monitor
MAN	MANitoba
MAN	MANual
MAN	Manual Adjacent Center
MANAM	MANual AMendment
MANL	MANuaL
MANOP	MANual of OPERations
map	aeronautical maps and charts (ICAO)
MAP	Maintenance Analysis Program
MAP	Maintenance Automation Program
MAP	Manufacturing Automation Protocol
MAP	Meteorological and Aeronautical Presentation system (case file designator)
MAP	Missed Approach Point
MAP	Missed Approach Procedure
MAPD	Maintenance Automation Program Division
MAPICS	Manufacturing Accounting and Production Information Control System
MAPO	Maintenance Automation Program Office
MAPPS	Management And Project Planning System
MAPS	Mesoscale Analysis and Prediction System
MAPS	Meteorological and Aeronautical Presentation System
MAPS	Minimum Altitude Performance Specification
MAPSS	Meteorological and Aeronautical Presentation System Service
MAPT	Missed APPROach Point (ICAO)
MAPXREF	transfer MAP data to DARC (NOSS display Channel support program)
MAR	at sea (ICAO)
MAR	MARCh
MAR	MARS (case file designator)
MAR	Memory Address Register
MAR	Minimally Attended Radar
MARC	Multi-microprocessor ARrangement for Communication (NADIN)
MARCALL	MARTin Marietta telecommunications network
MAREQ	MARine EQUIPMENT (boats, docks)
MARPT	Municipal AirPort
MARS	Maintenance Automated Reporting System
MARS	Maintenance Automation Reporting System (OS maintenance support program)
MARSA	Military Assumes Responsibility for Separation of Aircraft

MAS	Manual A1 Simplex (ICAO)
MAS	Military Alert System
MAS	Multiple-Award Schedule
MASC	Maintenance Automation Software Committee
MASR	Message Activity Summary Report
MATCH	Military Air Traffic Coordination and Handling
MAWP	Missed Approach WayPoint
MAX	MAXimum
MAX(X)	MAXimum of the elements of the set X
MAXR	Minimum separation Radius (parameter)
MAY	MAY
MB	Magnetic Bearing
MB	Marker Beacon
Mb	Megabits
Mb	Megabytes (millions of bytes)
MB	MegaBytes (millions of bytes)
mb	millibar(s)
MB	MultiBus interface adapter
MBC	Months Before Contract
MBO	Military Base Operations
Mbps	Megabits per second
Mbps	Megabytes per second
MBR	Memory Buffer Register
MBRT	Mean-Bench-Repair Time
Mb/sec	Megabytes per second
MBytes	MegaBytes (millions of bytes)
MC	Machine Check
MC	Magnetic Course
MC	Maintenance Console
M/C	Marginal Check
Mc	Megacycles
MC	Message Composition
MC	Military Mission Coordinator
MC	Mission Coordinator
M&C	Monitor and Control
M/C	Monitor and Control
MC	Motion Command
MC	Multiplier Constant
MCA	Minimum Crossing Altitude
M/CAM	Manager/Cost Account Manager
MCAS	Marine Corps Air Station
MCB	Message Control Block
MCC	Maintenance Control Center
MCC	Maintenance Control Console
MCC	Management Control Center
MCC	Microelectronics and Computer Technology Corporation
MCC	Mission Control Center
MCC	Monitor and Control Console
M&CC	Monitor and Control Console
MCCP	Maintenance Control Center Processor

MCCP/MMC	Maintenance Control Center Processor/Maintenance Monitor Console
MCCR	Mission-Critical Computer Resources
MCCS	Mission-Critical Computer System
MCCS	Monitor and Control Console Suite
MCCW	Maintenance Control Console Workstation
MCD	CCW de-translation subprogram
MCDT	Mean Corrective Down Time
MC&G	Mapping, Charting, and Geodetic
MCE	Management Control Equipment
MCE	Monitoring and Control Equipment
MCI	Master Configuration Index (NAS-MD-001)
MCI	Mode C Intruder
MCIC	Machine-Check-Interruption Code
MCK	Maintenance Check
MCL	Mid-Canada Line
MCM	CCW buffer management subprogram
MCN	Message Control Number
MCON	Maintenance reCONfiguration (SE to CDC message)
MC&R	Message Composition and Response
MCR	Multi-Channel Recorder
MCRA	Mode C Reasonableness Altitude (parameter)
MCRD	Message Composition and Response Display
MCS	Maintenance and Control Software
MCS	Maintenance and Control System
MCS	Maintenance Console System
MCS	Master Control Station
MCS	Monitor and Control Software
MCS	Monitor and Control Subsystem
MCS	Monitoring and Control System
MCS	Multiple-Copy Screens
MCSC	tracking cycles for reduced-rate printout (parameter)
MCSI	Manual Center Strip Interval (parameter)
MCT	CCW Translation subprogram
MCT	Master Configuration Table
MCT	Mode C Track indicator
MCU	Memory Control Unit
MCU	Modulation Control Unit
MCVA	Mode C VFR Altitude (parameter)
MCVR	MultiChannel Voice Recorder
MCW	Modulated Carrier Wave
MCW	Modulated Continuous Wave (ICAO)
MCWG	Maintenance Concept Working Group
MCX	I/O first-level interrupt handler
MCZNE	Minimum when Control Zone Effective
MD	Main Display
MD	Maintenance Device
MD	Management Directive
MD	Management Document
MD	McDonnell Douglas
M&D	Maintenance and Diagnostic

MDA	Minimum Descent Altitude (non-precision approach)
MDA	on-line dump control subprogram
MDARC	Mosaic-tracking Direct Access Radar Channel
MDB	on-line dump facility subprogram
MDBM	Multiplexed Display Buffer Memory
MDC	Main Display Controller
MDCDIAG	Main Display Controller DIAGnostics
MDD	DCC Dump-to-Disk subprogram
Mddb	Material Delivery Data Base
MDDF	Material Delivery Data File
MDF	Main Distribution Frame
MDF	Medium frequency Direction Finding station (ICAO)
MDH	Minimum Descent Height (ICAO)
MDM	Main Display Monitor
MDM	Maintenance Diagnostic Monitor
MDM	MDM maintenance software
MDM	Multiprocessing Diagnostic Monitor (NAS maintenance support program)
MDS	Menu-Driven System
MDS	Minimum Discernible Signal
MDS	MODE S ground equipment (case file designator)
MDT	core-disk-to-tape transfer subprogram
MDT	Maintenance Data Terminal(s)
MDT	Mean Down Time
MDT	Medium Density Terminal
MDT	Message Destination Table
MDTP	Main Display Touch Panel
MDU	simulation radar control subprogram
Mdzn	Modernization
MEA	Maintenance Engineering Analysis
MEA	Minimum En route Altitude (ICAO)
MEA	Minimum En route IFR Altitude
MEB	Martin Marietta performance Evaluation Board
ME/CCB	Maintenance Engineering/Configuration Control Board
MECH	MECHanic
MED	Manual Entry Device
MED	MEDical
MED	MEDium
mega	million
MEGG	MERginG
MEHT	Minimum Eye Height over Threshold (for visual approach slope indicator system) (ICAO)
MEL	Minimum Equipment List
MEM	MEMory
MEML	MEMoriaL
MENS	Mission Element Need Statement
MERF	Mobile En route Radar Facility
MERIT	Minimum Energy Route Interactive Technique
MET	METeorological systems and equipment (case file designator)
MET	METeorological (ICAO)

MET	METeorologist
MET	METeorology
METAPHASE	Host support METAPHASE ASSEMBLER for the CDC
METAR	ICAO Aviation routine weather Report
METER	METER airport record (adaptation record)
METOF	METeorological Officer
METR	METeoRologist
METR	METeRing activation switch (parameter)
METRO	METROpolitan
MEX	MEXico
MF	Major Function
MF	Medium Frequency
MF	Message Frequency
mF	milliFarad
MF	MultiFrequency
MFDP	Manual Flight Data Processing
MFL	Maintain Flight Level
MFOB	Minimum Fuel On Board
MFOS	Multi-Function Operations System
MFPOF	Master Flight Plan On File
MFS	Military Flight Service
MFT	Meter Fix Time
MFT	Multi-programming with a Fixed number of Tasks
MFV	Forward Visibility more than ... (miles)
MFXT	Meter Fix Time
MG	MessaGe field control (table)
MGAT	Make Good A Track of
MGFA	Middle Gross Filter Altitude (parameter)
MGMT	ManaGeMenT
MGMT	ManaGeMenT support
MGR	ManaGeR
MGRS	Military Grid Reference System
MH	Magnetic Heading
MH	Medium-power Homing radio beacon
MH	Modify Hold/delay (message ID)
MHA	Minimum Holding Altitude
MHD	MagnetoHydroDynamics
MHD	Moving-Head Disk (NADIN)
MHDF	Medium and High frequency Direction Finding stations (at the same location) (ICAO)
MHDG	Magnetic HeadinG
MHEI	Mock-up Human Engineering Inventory
MHFR	Military Height Finder Radar
MHKVLY	MoHawK VaLley
MHVDF	Medium, High and Very high frequency Direction Finding stations (at the same location) (ICAO)
mHz	megacycles per second
MHz	MegaHertz
MI	Management Instruction
MI	Manufacturing Inspector
MI	Miles
MI	monitor MIscellaneous (table)

MIA	Minimum IFR Altitude
MIA	Missing In Action
MIB	Military B
MICR	Magnetic Ink Character Recognition
micro	millionth
MICS	Management Information Computer System
MID	MID-point (related to RVR) (ICAO)
MID	MIDdle
MID/ASIA	ICAO MIDdle East/ASIA Region
MIDD	Military Domestic Departures
MIDIC	MID-Canada Identification zone
MIDN	MIDNight
MIDO	Manufacturing Inspection District Office
MIDO	Military Domestic Overflights
MID RVR	MID-field Runway Visual Range
MIDS	Modified Input Data Selector
MIFF	E-MSAW alert indefinitely suppressed
MIFG	patches of shallow FoG not deeper than two feet
MIIT	Miles In Trail
MIL	MILitary
MIL-HDBK	MILitary HanDBooK
MIL-STD	MILitary STandard
MILSTRIP	MILitary Standard Requisitioning and Issue Procedure
MIM	Maintenance Information Manual
MIM	Military Interference Modification
MIMNO	MIMeograph NOTice
MIN	MINimum
min	minute(s)
MIN(X)	MINimum of the elements of the set X
MINIT	MINutes In Trail
MIOC	Multiplex Input/Output Channel (NADIN)
MIOD	Military Oceanic Departures
MIOM	Medium-speed Input/Output Multiplex
MIOO	Military Oceanic Overflights
MIPS	Millions of Instructions Per Second
MIREQ	Minimum REquirements Specified
MIRG	Management Information and Report Generator
MIRL	Medium Intensity Runway edge Lights
MIRL	Medium Intensity Runway Lights
MIS	Management Information System
MIS	Meteorological Impact Statement
MIS	MIScellaneous (case file designator)
MIS	Multiple Interactive Screens
MISC	MISCellaneous
MISC	MISCellaneous data record (adaptation record)
MISG	MISSing
MISL	MISSile
MISQU	MIS Query and Update
MIST	Microburst and Severe Thunderstorm
MIT	Miles in Trail
MITO	Minimum Interval TakeOff

MITRE	MITRE Corporation (a support contractor)
MIU	Modem Interface Unit
MKCT	MaKe Check Turn
MKD	MarKeD
MKR	MarKeR
MKR	MarKeR radio beacon (ICAO)
ML	adjacent center Metering List (message ID)
MLAP	Matched code beacon LSA Lateral Position smoothing constant (parameter)
MLAV	Matched code beacon LSA Lateral Velocity smoothing constant (parameter)
MLDI	Meter List Display Interval (parameter)
MLF	Medium Low Frequency
MLM	Maintenance Library Manual
MLO	Maintenance Liaison Officer
MLO	Military Liaison Office
MLOP	Matched code beacon LSA Longitudinal Position smoothing constant (parameter)
MLOV	Matched code beacon LSA Longitudinal Velocity smoothing constant (parameter)
MLPSC	Monthly Licensed Program Support Charge
MLS	Microwave Landing System
MLSA	Microwave Landing System-Azimuth
MLSBA	Microwave Landing System-Back Azimuth
MLSD	Microwave Landing System-Distance measuring equipment
MLSE	Microwave Landing System-Elevation
MLSF	Microwave Landing System-Flare
MLSP	Matched code non-discrete beacon modified LSA Position smoothing constant (parameter)
MLS/PDME	Microwave Landing System/Precision Distance Measuring Equipment
MLSV	Matched code non-discrete beacon modified LSA Velocity smoothing constant (parameter)
MLT	Mean Level Threshold
MLTLVL	MeLTing LeVeL
MLWAS	Medium-Level Windshear Alert System
MM	Man-Months
MM	Memory Module
MM	Middle Marker (ILS)
mm	millimeter
MM	Minute Man
MMAC	Martin Marietta Aircraft Corporation
MMAS	Material Management Account System
MMC	Maintenance Monitor Control
MMC	Maintenance Monitoring Console
MMC	Martin Marietta Corporation
MMC	Military Mission Coordinator
MMCS	Man-Machine Communications Subsystem
MMI	Man-Machine Interface
MMLPSC	Monthly Multiple Licensed Program Support Charge
MMO	Main Meteorological Office



MMP	Module Message Processor
MMP	Monitor Minute Processor subprogram
MMS	Maintenance Management System
MMS	Maintenance Monitoring System
MMS	Master Milestone Schedule
MMSU	Modular Metallic Service Unit
MMUX	Memory address MULTipleXer
MMWDET	MilliMeter-Wave modeling & analysis, phases I & II
MN	Magnetic North
MN	NAS-to-NAS Message control (table)
MNLD	MainLand
MNLY	MainLY
MNM	MinimuM (ICAO)
MNP	Microcom Network Protocol
MNPS	Minimum Navigation Performance Specification
MNPSA	Minimum Navigation Performance Specification Airspace
MNS	Mission Need Statement
MNT	MoNiTor (ICAO)
MNT	MoNiToring (ICAO)
MNT	MoNiTored (ICAO)
MNTN	MainTain (ICAO)
MNVR	MaNeuVer
MOA	Memorandum Of Agreement
MOA	Military Operations Area
MOAT	Meteorological Optional Auxiliary Terminal
MOB	Main Operating Base
MOC	Master Operational Control
MOC	Minimum Obstacle Clearance (required) (ICAO)
MOCA	Minimum Obstruction Clearance Altitude
MOD	data transmission equipment (case file designator)
MOD	MODerate (used to qualify icing, turbulence, interference or static reports) (ICAO)
MOD	MODulate
MODE 3A/C	identity/altitude reporting MODE of beacon transponder
MODE C	MODE C (secondary radar altitude-reporting mode)
MODEM	MODulator-DEMODulator
MODE S	MODE S (secondary radar discretely addressable mode with data link)
MODES	MODE Select beacon system
MODESDL	MODE S Data Link
MODESSURV	MODE S SURVeillance
MODIF	MODIFication
MODS	MODifications
MOFF	E-MSAW alert specifically suppressed
MOG	Map Outline Generator
MOGR	Moderate or GREater
MOIN	Match Operation INterval (parameter)
MON	above MOuNtains (ICAO)
MON	MONday
MON	NAS Operational Monitor software

MON	submitted MONTHly
MONOK	MONitor is OK (resumed normal operations)
MONOS	MONitor Out of Service
MONTR	MONiToR
MOPS	Minimum Operational Performance Specification
MOPS	Minimum Operational Performance Standard
MOPS	Minimum Operating Performance Specification
MOPS	Minimum Operating Performance Standard
MOPTAR	Multi-Object Phase Tracking And Ranging
MOTNE	Meteorological Operational Telecommunications Network Europe (ICAO)
MOREPS	MONitor station REPortS
M&OS	Maintenance and Operations Support
MOS	Maintenance Operating System
MOS	Metal Oxide Semiconductor
MOS	Military Operation Specialist
MOSFET	MOS Field Effect Transistor
MOSI	Microprocessor Operating System Interface
MOSS	Maintenance and Operator SubSystem
MOT	Maintenance Operator's Terminal
MOT	Ministry Of Transportation
MOTE	reMOTE device record
MOU	Memorandum Of Understanding
MOV	MOVE
MOV	MOVing (ICAO)
MOV	MOVement (ICAO)
MP	Maintenance Plan
MP	Micro-Processor
MP	Mission flight Plan (message ID)
MP	Multi-Processor
MP	Pending Message field control (table)
MPCAG	Military Parts Control Advisory Group
MPCD	Minimum Perpendicular Check Distance (parameter)
MPCS	Multi-Purpose Console Subsystem
MPD	Metering Position Display
MPE	Maintenance Position Equipment
MPE	Multi-Processor Executive
MPF	Purge at FINIS subprogram
mP	maritime Polar
mph	miles per hour
MPH	Miles Per Hour
MPH	statute Miles Per Hour (ICAO)
MPL	Module Pre-Load and control block initialization subroutine
MPLX	MultiPLeXer
MPMT	Mean Preventive Maintenance Time
MPP	Merit Promotion Program
MPP	Most Probable Position
MPQT	Major function Preliminary Qualification Test
MPS	Maintenance Processing Subsystem
MPS	Maintenance Processor Subsystem
MPS	Message Processing Subsystem

MPS	Meters Per Second (ICAO)
MPSC	Maintenance Processor Subsystem Concentrator
MPSC	Maintenance Processor Subsystem Console
MPSG	Maintenance Philosophy Steering Group
MPSX	Mathematical Programming System eXtended
MPTB	Multiple Performance Test Battery
MPVA	Maintain a Positive VFR and Advise
MPVD	Meter PVD record (adaptation record)
MPX	Program interrupt processor subprogram
MPX	MultiPleX
MPX	MultiPleXer
MQ	Multiplier Quotient
MQ	NAS output communications (table)
MQS	Monitor Queue Space
mR	milli-Roentgens
MR	Map Request (message ID)
MR	MilliRadian
MR	Minimum assignable flight level Request (message ID)
M/RA	Maintenance/Reliability Analysis
MRA	Minimum Reception Altitude
MRAP	Microcircuit Reliability Assessment Program
MRB	Material Review Board
MRB	Material Review Board
MRC	Resource Monitor Controller subprogram
MRDP	Multiple Radar Data Processing
MREP	Mandatory REplacement of an operational element (message ID)
MREQ	Maintenance REquest (SE to CDC message)
MRG	Maintenance Requirements Group
MRG	Medium RanGe (ICAO)
MRGL	MaRGinaL
MRI	Mode Request Indicator
MRJE	Multi-leaving Remote Job Entry
MRM	Maintenance Returns Monitor
MRM	Master Requirements Matrix
MRM	Medium-Range Missile
MRNG	MoRNinG
MRO	Multi-Region Operation
MRP	ATS/MET Reporting Point (ICAO)
MRP	Memory Reference Pulse
MRR	Mechanical Reliability Report
MRS	Meta-level Reasoning System
MRT	Maximum Response Time
MRT	Modified Rhyme Test
MRTI	Microprocessor Radio Telephone Interconnect
MRTM	MaRiTMe
MRU	Military Radar Unit
MRV	disk initialization subprogram
M/S	Main/Standby
MS	Maximum Stress
M&S	Metering and Spacing

ms	microsecond(s) (millionths)
ms	millisecond(s)
MS	MilliSecond(s)
MS	MinuS
MS	Module Selectors
MSA	Major System Acquisition
MSA	Minimum Safe Altitude
MSA	Minimum Sector Altitude (ICAO)
MSA/TPL	Major System Acquisition/TSARC Project List
MSAW	Minimum Safe Altitude Warning
MSAW	E-MSAW alert
MSB	Master Schedule Baseline
MSB	Most-Significant Bit
MSC	Multiple Systems Coupling
MSCM	Multi-System Configuration Management
MSCTR	MeSSage CenTeR
MSCU	Message Switch Control Unit
MS-DOS	MicroSoft-Disk Operating System
MSE	May Simultaneously Execute
m/sec	meters per second
mSEC	milliSECond
MSFC	Marshall Space Flight Center
MSG	MeSSaGe
MSG	MeSSaGe region (IMS)
MSGs	MeSSaGes
MSL	Mean Sea Level
MSLG	MisSile alignment/programming LeG
MSLI	Mode C pressure correction differential (parameter)
MSM	Maintenance Support Manual
MSN	Message Switching Network
MSN	switch synchronization subprogram
MSNF	Multi-System Networking Facility
MSP	Maintenance Supervisory Position
MSP	Maintenance System Printer
MSP	Medium-Speed Printer
MSP	Medium-Speed Printer subsystem (case file designator)
MSPC	MSP Controller
MSPE	Modeling and Simulation Program Element
MSPU	Message Switch Peripheral Unit
MSR	Monitor Station Receiver
MSS	Mass Storage System
MSS	Master Scheduling System
MSS	Mobile Satellite Service
MSSE	Mass Storage System Extensions
MSSF	Monitor and System Support Facility
MSSF	Monitoring and System Support Facility
MSSM	Monitoring and System Support Manager
MSSP	Matched code beacon SSA Position Smoothing constant (parameter)

MSSV	Matched code beacon SSA Velocity Smoothing constant (parameter)
MST	Mean Switchover Time
MST	Monolithic System Technology
MSTLY	MoSTLY
MSTR	MoiSTuRe
MSU	Modem Synchronizer Unit
MSX	SVC first-level interrupt handler subprogram
mT	maritime Tropical
MT	Message Type
Mt	Mountain
MTA	Minimum Track Altitude
MTB	Metallic Test Bus
MTBCF	Mean Time Between Critical Failure
MTBF	Mean Time Between Failures
MTBI	Mean Time Between Interruption
MTBMA	Mean-Time Between Maintenance Action
MTBO	Mean Time Between Outages
MTBPMA	Mean-Time Between Preventive Maintenance Actions
MTBR	Mean Time Between Repair
MTBRA	Mean Time Between Repair Actions
MTBUMA	Mean-Time Between Unscheduled Maintenance Actions
MTC	Magnetic Tape Controller
MTCA	Minimum Terrain Clearance Altitude
MTCR	Minimum Time between Correlated Returns (parameter)
MTCS	Modular Terminal Communications System
MTD	CDC test driver subprogram
MTD	Magnetic Tape Device
MTD	Moving Target Detection
MTD	Moving Target Detector
MTDC	Magnetic Tape Device Controller
MTF	Modulation Transfer Function
MTG	Mark Time Generator
MTI	Message Type Indicator
MTI	Moving Target Indicator
MTIC	FP Maximum Time In Core (parameter)
MTK	Magnetic Track
MTL	Minimum Threshold Level
MTN	Mountain
MTO	Mission Test Order
MTP	Master Test Plan
MTR	Mean-Time to Repair
MTR	Mean-Time to Restore
MTR	Military Training Route
MTR	Mission Test Report
MTR	MITRE Technical Report
MTRL	Material
MTRY	MomentaRY
MTS	Magnetic Tape Subsystem
MTS	Maintenance Test Station
MTS	Memory Test Station

MTSS	MMI Training Support Software
MTSS	MMI Training Support Subsystem
MTTF	Mean-Time To Failure
MTTR	Mean Time To Repair
MTTR	Mean Time To Restore
MTTS	Mean Time To Switch
MTU	Magnetic Tape Unit
MTU	MeTric Unit (ICAO)
MTW	MountAin Wave (ICAO)
MU	inter-facility Metering Update (message ID)
MUA	Maximum Usable Altitude
MUDB	MULTiprocessing Diagnostic monitor utility disk Build
MUF	Maximum Usable Frequency
MULT	MULTiple
MULTI	MULTiple plot program
MULTIPLLOT	MULTiple PLOT (OS maintenance support program)
MUNI	MUNicipal
MUSL	Minimum Usable Signal Level (Mode-S)
MUT	Mean Up Time
MUX	MULTipleX
MUX	MULTipleXer
mV	milliVolt
MVA	Minimum Vectoring Altitude
MVC	MoVe Character (instruction)
MVDF	Medium and Very high frequency Direction Finding stations (at the same location) (ICAO)
MVFR	Maintain VFR
MVFR	Marginal VFR
MVP	Master Vectoring Plan
MVS	Multiple Virtual Storage (operating system)
MVSP	Maintain Visual SeParation
MVS/SP	MVS/System Product
MVS/XA	MVS/eXtended Architecture
MVT	Multiple Variable Task (operating system)
MVT	Multi-programming with a Variable number of Tasks
MVW	MoVe Word (instruction)
MW	MegaWatt
MW	Message alphanumeric data (table)
MWA	Maximum Warning Altitude
MWARA	Major World Air Route Areas
MWAS	Medium-level Windshear Alerting System
MWC	Modernized Weather teletypewriter Communications system (software) (case file designator)
MWIND	Meter WIND record (adaptation record)
MWL	Message Waiting Lamp
MWLC	Message Waiting Lamp Chime (parameter)
MWO	Meteorological Watch Office (ICAO)
MWP	Meteorological Weather Processor
MWTCS	Modernized Weather Teletypewriter Communications System
MWRC	Maintain Well to Right of Course

MWWTCS	Modernized Weather Teletype Communications System
MX	Mixed type of ice formation (white and clear) (ICAO)
MX	Mobile engine generator plant
MXD	Mixed
MXER	Maximum Errors
MXTM	Maximum Time

N	Nadir
N	NAS Specialist
N	Non-critical
N	North
N	Northern latitude (ICAO)
N	Not Authorized
NA	Name Array (table)
NA	Not Applicable
N/A	Not Applicable
NA	Not Authorized
NAAS	Naval Auxiliary Air Station
NAATS	National Association of Air Traffic Control Specialists
NAB	Not Above
NACK	Negative Acknowledgment
NACM	Navigational Aids and Communication Module
NACOS	National Communications Schedule
NAD	NADIN (case file designator)
NAD	Non-Adapted Departure
NAD	North American Datum
NADI	NADIN Input Equipment
NADIN	National Airspace Data Interchange Network
NADIN	National Data Interchange Network
NADINIA	NADIN IA
NADINII	NADIN II
NADN	NADIN/CCC Status Indicator (parameter)
NADO	NADIN Output Equipment
NAF	Naval Air Facility
NAFAX	National Facsimile Circuit
NAFEC	National Aviation Facilities Experimental Center (former name of FAATC)
NAILS	National Airspace Integrated Logistics Support
NAILSMT	NAILS Management Team
NAK	Negative Acknowledgment
NANAC	National Aircraft Noise Abatement Council
nano	billionth
NAP	North American Phillips Corporation
NAPRS	National Airspace Performance Reporting System
NAPRS/TA	National Airspace Performance Reporting System/Trend Analysis
NAR	National Airspace Review
NAR	North American Route
NARACS	National Radio Communications System (HF network)
NAS	National Airspace System
NAS	Naval Air Station
NASA	National Aeronautics and Space Administration
NASCOM	National Aviation Systems Communications
NASCOM	daily NAS status report
NASCOR	NAS Core Tape Dump (NOSS DR&A program)
NASEDT	NAS Operational System Edit Program
NASI	NAS Interfacility Input
NASIL	NAS Information Library System



NASLKED	OS NAS Linkage Editor (NOSS support program)
NASM	NAS Manager
NASM	NAS Modifications for ISSS (IBM CSCI 15, AAS)
NAS-MD	NAS Configuration Management Document
NAS-MD	NAS Management Directive
NASNET	NAS Network
NASO	NAS Interfacility Output
NASOC	NAS On-site Coordinator
NASP	NAS Programming
NASP	National Airport System Plan
NASP	National Airspace System Plan
NASPO	NAS Program Office
NASPOC	NAS Program Office Configuration
NASPOR	NAS Plan Operations/Procedural Review
NASSR	NAS System Requirements
NASSRS	NAS System Requirements Specification
NASSS	NAS System Specification
NAS Stage A	Version of NAS En Route software used in HCS before ISSS
NASU	Unmodified NAS software
NASXREF	Cross-Reference NAS System (NOSS support program)
Nat	National
NAT	North ATLantic
NAT	Not ARTS Tracked
NATAC	National Air Traffic Advisory Committee
NATAC	National Air Traffic Automation Committee
NATAC	National Air Traffic Automation Coordinating Committee
NATCAS	Navigation, Air Traffic Control, and Collision Avoidance System
NATCC	National Air Transport Coordinating Committee
NATCOM	National Communications Center (Kansas City, MO)
NATL	National
NATO	North Atlantic Treaty Organization
NATR	No Additional Traffic Recorded
NATS	Noise Abatement Test System
NAV	Nav aids (case file designator)
NAV	Nav aid (RWP)
Nav	Navigation
NAVAID	Navigation Aid
NAVAID	Navigational Aid
NAVAIDS	Navigation Aids
NAVAIDS	Navigational Aids
NAVLO	NAVy Liaison Officer
NAVMAT	Naval Material Command
NAVREP	NAVy REPresentative to the FAA
NAVSAT	Civil Satellite Navigation System
NAVSAT	Navigation Satellite
NAVSTAR	Navigation System Using Timing and Ranging
NAWAU	Navigation Aviation Weather Advisory Unit
NAWP	National Aviation Weather Processing
NAWP	National Aviation Weather Processor

NAWPF	National Aviation Weather Processing Facility
NB	New Brunswick
NB	No Beacon
NB	North Bound (ICAO)
NBAA	National Business Aircraft Association
NBC	Nuclear, Biological, Chemical
NBCAP	National Beacon Code Allocation Plan
nbf	Number of Bytes to Follow (in an IMIB or OMIB)
NBFR	Not BeFoRe (ICAO)
NBND	Northbound
NBRHD	Neighborhood
NBS	National Bureau of Standards
NC	Network Clock
NC	No Change
NC	Normally Closed
NCA	National Command Authority
NCAR	National Center for Atmospheric Research
NCC	National Climatic Center
NCC	Network Control Center
NCCF	Network Communications Control Facility
NCE	No Change in Estimates
NCIU	NEXRAD Communications Interface Unit
NCO	NAS Control Officer
NCO	Non-Commissioned Officer
NCOC	NORAD Combat Operations Center
NCP	NAS Change Proposal
NCP	Network Control Program
NCR	National Cash Register Co.
NCRC	Non-Validated Mode C Beacon Count (parameter)
NCS	National Communications System
NCT	Network Control and Timing
NCT	Normal Channel Time
NCTE	Network Channel Terminal Equipment
NCWX	No Change in Weather
ND	No-Data counter
NDB	National Data Base
NDB	Non-Directional Beacon
NDB	Non-Directional radio Beacon
NDBC	Non-Discrete Beacon Code
NDBLO	Not to Descend Below
NDE	No Delay Expected
NDP	National Deployment Plan
NDR	Non-Display Recording
NDRE	Norwegian Defense Research Establishment
NDRO	Non-Destructive Readout
NDS	Non-Developmental Software
NDST	No-Data Cycle Threshold (parameter)
NDST	No-Data Scan Threshold (parameter)
NDT	Non-Destructive Testing
NDTI	Day Time Interval (parameter)
NE	NorthEast
NEACP	National Emergency Airborne Command Post

NEB	North East Bound (ICAO)
NEBS	New Equipment Building System
NEC	National Electrical Code
NEC	Necessary
NECIP	Northeast Corridor Improvement Program
NECPA	National Energy Conservation Policy Act
NEDS	Naval Environmental Display Station
NEEDS	NAS End-to-End Data System
NEF	No Further clearance required
NEF	Noise Exposure Forecast
NEG	Negative
NEG	no
NEG	permission not granted (ICAO)
NEG	that is not correct (ICAO)
NELY	Northeasterly (weather reports only)
NEMA	National Electrical Manufacturers Association
NEOF	National Emergency Operations Facility
NEPA	National Environmental Policy Act
NERN	Northeastern
NESCO	Network and Schedule Committee
NESDIS	National Environmental Satellite Data and Information Services
NESS	National Environmental Satellite Service
NETPARS	Network Performance Analysis Reporting System
NETR	No Essential Traffic Reported
NEW ENG	New England
NEXRAD	Next-Generation Weather Radar
NFDC	National Flight Data Center
NFDD	National Flight Data Digest
NFDP	National Flight Data Processing system
NFEM	Excessive Status/Test Messages (parameter)
NFIS	NAS Facilities Information System
NFIS	National Facilities Information System
NFIS-e	National Facilities Information System - Executive
NFLD	Newfoundland
NFMM	Missing Status/Test Messages (parameter)
NFPA	National Fire Protection Association
NFQ	Night Frequency
NFSG	National Field Support Group
NFSS	National Field Support Sector
NFT	No Filing Time
NFU	Not for Us
NG	National Guard
NGC	Numerics Generation Conversion Equipment (case file designator)
NGCE	Numerics Generation Conversion Equipment
NGT	NiGht
NHC	National Hurricane Center
NHD	Not Heard
NI	Network Interface
NIA	Network Interface Adapter
NIB	Non-Interference Basis

NIBS	Neutral Industry Booking System
NIC	Network Interface Card
NICF	NAS Interfacility Communications System Facility
NICS	NAS Interfacility Communications System
NICS	National Interfacility Communications System
NICS	Network Information Communication System (RMMS)
NIH	National Institutes of Health
NIL	I have nothing to send to you (ICAO)
NIL	None
NIL	Unable to transmit
NIS	Not in System
NIT&E	NAS Integration, Test, and Evaluation
NJE	Network Job Entry
NKA	BDIS Control Center
N/L	Navigation and Landing
NL	New Line (keyboard function)
NL	No Layers
NLAP	Non-Matched Code Beacon LSA Lateral Position Smoothing Constant (parameter)
NLAV	Non-Matched Code Beacon LSA Lateral Velocity Smoothing Constant (parameter)
NLDM	Network Logical Data Manager
NLOP	Non-Matched Code Beacon LSA Longitudinal Position Smoothing Constant (parameter)
NLOV	Non-Matched Code Beacon LSA Longitudinal Velocity Smoothing Constant (parameter)
NLR	Noise Level Reduction
NLR	Non Linear Resistor
NLS	Network Logic Schedule
NLSP	Non-Matched Code Beacon Modified LSA Position Smoothing Constant (parameter)
NLSV	Non-Matched Code Beacon Modified LSA Velocity Smoothing Constant (parameter)
NLT	No Later Than
NLT	Not Later Than
NM	Nautical Miles
NM	Network Management
NMAC	Near Mid-Air Collision
NMBR	Number
NMC	National Meteorological Center
NMC	Network Management Center
NMCC	National Military Command Center
NMCE	Network Management and Control Equipment
NMCE	Network Monitor and Control Equipment
NMCS	Network Management and Control Subsystem
NMCS	Network Management and Control System
NMCS	Network Management Communication System
NME	Network Management Equipment
NME	Network Monitoring Equipment
NMI	Nautical Miles
NMI	Non-Maskable Interrupt
NML	NorMaL

NMMS	National Maintenance Management System
NMPF	Network Management Productivity Facility
NMPS	National Maintenance Processor Subsystem
NMIR	Nautical Mile Radius
NMRS	Numerous
NMT	Non-Mode C Altitude Transition Indicator
NNE	North North East
NNERN	North-Northeastern (weather report only)
NNEWD	North-Northeastward (weather reports only)
NNS	Non-NAS Software
NNSS	NASA/NOAA Space Systems (CTA)
NNSS	Navy Navigational Satellite System (Transit)
NNW	North North West
NNWRN	North-Northwestern (weather reports only)
NNWWD	North-Northwestward (weather reports only)
NO	North
No.	Number
NOAA	National Oceanic and Atmospheric Administration
NOAA	National Oceanographic and Atmospheric Administration
NOAC	No Action necessary
NOC	Naval Oceanography Command
NODE	Node record
NOE	Map-of-the-Earth
NOF	international NOTAM Office (ICAO)
NOF	NOTAM Office
NOFIN	No Further Information
NOGAPS	Navy Operational Global Atmospheric Prediction System
NOH	No Header
NOHOL	No Holding
NOI	Notice of Intent
NOIFM	No Information
NOMAD	Naval Oceanographic Meteorological Automatic Device
NONE	Beacon code assigned, no radar correlation
NONEG	Negative replies Not required
NONFAAFAC	Non-FAA Facilities
NONTAB	NON-adapted TABLE size record (adaptation record)
NONUSFAC	NON-U.S. Facility
NO-OP	Non-Operational
NOP	No-Operation
NOPAC	Northern PACific
NOPAR	do NOT PASS to (air defense) Radar
NOPIO	Not OPERational Input/Output
NOPT	NO Procedure Turn required
NOR	Notice of Revision
NORAC	No Radio Contact
NORAD	North American Aerospace Defense Command
NORAD	North American Air Defense Command
NORDO	No Radio
NOREC	No Record

NOREP	No Report
NORIV	No Arrival report will be filed
NORM	Normal Display
NORPI	No Pilot Balloon Observation will be filed next collection unless weather changes significantly
NORR	No Reply Received
NORST	No Restrictions
NOS	National Ocean Survey
NOSAM	National Oil Shortage Analysis Model
NOSIG	NO SIGNificant change (used in trend type landing forecast) (ICAO)
NOSS	NAS Operational Support System
NOSS	Non-Operational Support System
NOSUM	NOTAM Summary
NOTAM	Notice To Airmen
NOTAM (D)	Notice To Airmen (Domestic)
NOTAMWS	Notice To Airmen Work Station
NOTIP	Northern Tier Integration Program
NOV	NOVember
NOZ	Normal Operating Zone
NPA	Network Performance Analyzer
NPA	Non-Precision Approach
NPAI	Network Protocol Address Information
NPAR	Non-standard Parts Approval Request
NPDA	Network Problem Determination Application
NPDS	National Patch Delivery System
NPFP	Next Posted Fix Parameter (parameter)
NPI	Non-Precision Instrument
NPIAS	National Plan of Integrated Airport Systems
NPIO	Set I/O Non-Operational on a Logical Device (Monitor message ID)
NPM	NAS Program Management
NPM	NAS Program Manager
NPM	Network Performance Manager
NPM	Network Performance Monitor
NPN	National Plan for Navigation
NPPAR	Non-Preferred Parts Application Request
NPPD	NAS Plan Program Director
NPR	Noise Power Ratio
NPRL	No Parallel
NPRM	Notice of Proposed Rule Making
NPRS	Non-Persistent
NPV	Net Present Value
NR	NeaR
NR	NumbeR
NR	Non-Radar
NRAB	Naval Reserve Air Base
NRC	Non-Radar Channel
NRC	Non-Radar CDC Subsystem (Raytheon CUE) (case file designator)
NRCC	Non-Radar Console Channel
NRCE	Non-Radar Channel Equipment

NRCED	Non-Radar Computer Entry Device
NRCMNT	Non-Radar Channel Maintenance Programs (NAS Maintenance support program)
NRCRD	Non-Radar Computer Readout Device
NRCRD	Non-Radar Computer Readout Display
NRCS	National Radio Communications System
NRD	No Record of Destination
NRH	No Reply Heard (ICAO)
NRKI	Non-Radar Keyboard Input
NRKM	Non-Radar Keyboard Multiplexer
NRKO	Non-Radar Keyboard Output
NRKR	NRKM Reconfiguration Request (Monitor message ID)
NRKU	NRKM Status Update (Monitor message ID)
NRL	Naval Research Laboratory
NRM	Normal Mode Response
NRM	Normal Response Mode
NRRC	Maximum Non-Reinforced Beacon Data Count (parameter)
NRS	NAS Reporting System (case file designator)
NRV	Non-Revenue
NRW	Narrow
NRZ	Non-Return to Zero
NRZI	Non-Return to Zero encoding (instruction)
NRZI	Non-Return to Zero Inverted
ns	Nanoseconds (billionths)
NS	NimboStratus
NS	Nova Scotia
NSA	National Security Agency
NSC	Nil Significant Cloud (ICAO)
NSAP	Network Service Access Point
NSCCA	Nuclear Safety Cross-Check Analysis
NSCSWD	No Small Craft or Storm Warnings are being Displayed
NSCT	NAS Certification Tape
NSCT	NAS System Certification Tape
NSD	National Service Division (IBM)
NSDD	National Security Decision Directive
nSEC	Nanosecond
NSF	National Science Foundation
NSID	NADIN Switch Identification (parameter)
NSN	National Stock Number
NSP	Non-Standard Holding Pattern
NSSF	NAS Simulation Support Facility (at FAATC)
NSSFC	National Severe Storm Forecast Center
NSSI	Next Sector Strip Interval (parameter)
NSSI	Next Strip Series Interval (parameter)
NSSL	National Severe Storms Laboratory
NSSP	Non-Matched Code Beacon SSA Position Smoothing Constant (parameter)
NSSV	Non-Matched Code Beacon SSA Velocity Smoothing Constant (parameter)
NST	New System Test

NSTP	Non-Stop
NSU	Non-Startup
NSWC	Naval Surface Weapons Center
NTAP	National Track Analysis Program (NOSS DR&A program)
NTC	No Traffic Reported
NTDB	NAS Transition Data Base
NTE	Not to Exceed
NTF	NOTAM To Follow
NTFND	No Trouble Found
NTFY	Notify
NTIA	National Telecommunications and Information Administration
NTIA	National Telecommunications Information Agency
NTIS	National Technical Information System (DOC)
NTMP	NAS Transition Management Plan
NTO	Name to
NTO	Network Terminal Option
NTP	NAS Transition Plan
NTRP	NAS TTY Retransmission (parameter)
NTS	Non-Transitioning Altitude Indicator
NTSB	National Transportation Safety Board
NTSC	National Television Systems Committee
NTZ	No Transgression Zone
NUDET	NUclear DETonation
NUREG	Nuclear Regulatory Commission
NVA	Negative Vorticity Advection
NVIS	NAS Visualization and Integration System
NVRAM	Non-Volatile Random-Access Memory
NVRC	Maximum Non-Validated Beacon Data Count (parameter)
NW	NorthWest
NWB	North West Bound (ICAO)
NWLY	Northwesterly (weather reports only)
NWP	Numerical Weather Prediction
NWRN	Northwestern (weather reports only)
NWS	National Weather Service
NWSFO	National Weather Service Field Office
NWSO	National Weather Service Office
NX	Name Index (table)
NXT	NeXT
NYMA	NYMA (a support contractor)
NYT	New York TRACON (case file designator)



O	approach control Overflight position
O	Other
OA	Office Automation
OAC	Oceanic Area Control
OAC	Oceanic Area Control center (ICAO)
OAG	Official Airline Guide
OAMP	Offline Aircraft Management Program
OANDR	Operation AND Regulation
OAOL	On And Off Instruments
OARTS	Oceanic Air Route Tracking System
OAS	Obstacle Assessment Surface (ICAO)
OASIS	Oceanic Area System Improvement Study
OASIS	Operational Application of Special Intelligence Systems
OAT	Outside Air Temperature
OATS	Office Automation Technology Service
OAQ	Off-Airways Weather station
OB	Oil Burner
OB	On Board
OBG	Output Buffer Group
OBJEDT	OBJect SPT EDiT (NOSS support program)
OBL	OBLiterate
OBND	OutBouND
OBK	Output Buffer Register
OBS	OBSeve (ICAO)
OBS	OBSeved (ICAO)
OBS	OBSevation
OBS	On Battery Signal
OBS	On Battery Standby
OBS	On Battery Supply
OBS	Optical Bypass Switch
OBSC	OBSCure
OBSC	OBSCured (ICAO)
OBSC	OBSCuring (ICAO)
OBST	OBSTacle (ICAO)
OBST	OBStruct
OBSTN	OBSTruction
OC	Obstruction Chart
OC	OCeanic
OC	On Course
OC	Operational Changeover
OC	Operational Characteristics
OCA	Obstacle Clearance Altitude (ICAO)
OCA	Oceanic Control Area (ICAO)
OCAC	OCeanic Air traffic Control
OCC	OCCulting (light) (ICAO)
OCC	Oceanic Control Center
OCC	Operator Control Console
OCCF	Operator Communication Control Facility
OCB	Operational Capability Demonstration
OCB	Operational Concept Document
OCBL	OCean Distance check Limit

OCFNT	OCcluded FrONt
OCH	Obstacle Clearance Height (ICAO)
OCL	Obstacle Clearance Limit (ICAO)
OCL	Operation Control Language
OCLC	On-line Computer Library Center
OCLD	OCcLuDe
OCNL	OCcasioNaL
OCNL	OCcasioNaLly (ICAO)
OCPD	Operational Computer Program Description
OCPD	Overall Computer Program Description
OCR	Optical Character Reader
OCR	Optical Character Recognition
OCS	Obstacle Clearance Surface (ICAO)
OCS	Operational Control Segment
OCS	Operational Control Systems
OCS	Output Control Sequencer
OCT	OCTober
OCTLA	Out of ConTrol, Leaving Area
OCTLA	Out of ConTrol Living Area
OD	Operational Description
OD	Operations Directive
O&D	Origination and Destination
ODALS	Omni-Directional Airport Lighting System
ODAPS	Oceanic Display And Planning System
ODC	Other Direct Costs
O-dd	intracenter handOff accepted, sector "dd"
ODL	ODALS (case file designator)
ODR	Output Data Request
ODR	Overview Design Review
OE	Obstruction Evaluation
OEAP	Operational Error Analysis Program
OEAP	Operational Error Analysis Processor record (adaptation record)
OEC	Operator-Equipment Compatibility
OEM	Office of Engineering Management
OEM	Original Equipment Manufacturer
OEM	Other Equipment Manufacturer
OES	Operational and Environmental Simulation
OET	Optical End of Tape
O/F	On File
OFAS	Overseas Flight Assistance Service
OFC	OFFiCe
OFCM	Office of the Federal Coordinator for Meteorological services
OFDI	Outer Fix Display Interval (parameter)
OFDPS	Offshore Flight Data Processing System
OFFL	OFFicial
OFFRD	OFF-RoaD (heavy equipment and off-road vehicles)
OFLD	set IOCE OFFLoaDing status (monitor message ID)
OFP	Original Flight Plan
OFPPE	Oceanic Flight Plan Position Extrapolation
OFSHR	OFFsHoRe

OFT	Outer Fix Time
OFW	Off Watch
OFXT	Outer FiX Time
OG	On Ground
OHD	OverHead (ICAO)
Ohms	unit of electrical resistance (not an acronym)
OI	On Instruments
OIC	Officer In Charge
OIC	Operational Integrity Check
OIC	Outgoing Interoffice Call
OID	Operator Interface Device
OIDB	Old In Data Block interval (parameter)
OIG	Office of the Inspector General
OINT	Omni-INTERsection
OIS	Office Information Systems
OJCS	Office of the Joint Chiefs of Staff
OJT	On-the-Job Training
OK	operating normally
OLAD	Open Line Alarm Driver
OLAG	Open Line Alarm Gate
OLC	On-Line Certification
OLCT	On-Line Certification Tape
OLD	crosstell track timed out
OLdd	intercenter handOff accepted at Center "L", sector "dd"
OLDRSS	On-Line Data Recording Services Subsystem
OLLL	handOff accepted at ARTS facility "LLL"
OLM	Off-Line Maintenance
OLSA	On-line Logistics Support Analysis
OLSP	On-Line Site Parameter
OLSS	On-Line Status System
OLT	Off-Line Test equipment hardware and software (case file designator)
OLT	On-Line Test
OLTD	On-Line Test/Debug
OLTEP	On-Line Test Executive Program
OLTS	On-Line Test System
OLTS	On-Line Tests
OLTSEP	On-Line Test Standalone Executive Program
OLTT	On-Line Test Tools subsystem
OLTTS	On-Line Test Tools Subsystem
O&M	Operations and Maintenance
OM	Option Monitoring
OM	Our Message
OM	Outer Marker
OM	Out for Maintenance
OMB	Office of Management and Budget
OMC	Oceanic Manual Controller
OMCF	Orbiter Maintenance and Checkout Facility
OMEGA	VLF navigation system
OM&H	Operational Maintenance and Handling
OMIB	Output Message Interface Block

OMSS	Operations Maintenance Support Station
OMSS	Operations Management Support Station
OMTNS	Over MountaiNS
ONER	Oceanic Navigational Error Report
ONSHR	ON SHoRe
ONT	ONTario
ONW	ON Watch
OOT	Out Of Tolerance
OP	Oceanic Planner
OP	Operating Procedure
OP	OPeration
OP	Operational Program
Op	Operator
OPA	OPAque, white type of ice formation (ICAO)
OPB	OPERating Budget
OPB	OPERations Budget
OPC	Operations Planning and Control
OPC	the control indicated is OPERational Control (ICAO)
OPE	Output Parity Error
OPEC	Organization of Petroleum Exporting Countries
OPER	OPERate
OPEX	Operational EXerciser
OPI	Office of Primary Interest
OPIO	set I/O Operational on a logical device (monitor message ID)
OPIUS	Owego Parts Identification and Usage System
OPMET	Operational METeorological (information) (ICAO)
OPN	OPeN (ICAO)
OPN	OPeNing (ICAO)
OPN	OPeNed (ICAO)
OPN	OPERation
OPNML	OPERations NorMaL
OPO	OPERation on an Object
OPP	OPERation on a Property
OPQT	OU Preliminary Qualification Test
OPR	Office of Primary Responsibility
OPR	OPERation on a Relationship
OPR	OPERator (ICAO)
OPR	OPeRate (ICAO)
OPR	OPeRative (ICAO)
OPR	OPeRating (ICAO)
OPR	OPeRational (ICAO)
OPRAS	Operational Planning and Requirements Analysis System
OPS	Operational (Status)
OPS	Operational Position Standards
OPS	OPERations
OPS/QTV	OPERations/Qualification Test Vehicle
OPT	OPTion
OR	Office of Responsibility
O/R	On Request

OR	Operational Requirements
OR	Operations Research
ORBIT	Tanker ORBIT point
ORD	indication of an ORDer
ORD	Operational Readiness Date
ORD	Operational Readiness Demonstration
ORD/JAI	Operational Readiness Demonstration/Joint Acceptance Inspection
ORG	ORGanization
ORGPHC	ORTHoGrAPHiC
ORI	Operational Readiness Inspection
ORIG	ORIGinal
ORL	Over-Run Lights
ORLA	Optimum Repair Level Analysis
ORS	Over Range Station
ORT	Operational Requirements Team
ORTA	Office of Research and Technology Applications
OS	On Site
OS	Operating System
OSB	Output StroBe
OSC	On-Site Coordinator
OSC	Operational Shakedown & Cutover
OSD	Oceanic Situation Display
OSD	Office of the Secretary of Defense
OSD	Operational Stability Demonstration
OS&DC	Over, Short, and Damage Claims
OSDS	Operating System for Distributed Switching
OSEM	Office of System Engineering Management
OSEM	Office of Systems Engineering and Management
OSFD	Operation Sequence Flow Diagram
OSHA	Occupational Safety and Health Administration
OSI	Open System Interconnection
OSI	Open Systems Interconnect
OSI/RM	Open System Interconnection/Reference Model
OS MAINT	OS MAINTenance support software
OSMN	OS MaINTenance Support software
OS/MVS	Operating System/Multiple Virtual Storage
OSP	Operations and Service Processor
OS/PCP	Operating System/Program Control Procedure
OSPI	Oceanic Strip Print Interval (parameter)
OSS	Operational Support Program
OST	Office of the Secretary of Transportation
OSTI	Office of Science and Technical Information
OSV	Ocean Station Vessel
OS/VM	Operating System/Virtual Machine
OS/VS	Operating System/Virtual Storage
OSXREF	OS COMPOOL REFERENCE programs (NOSS utility program)
OT	On Time
O&T	Orientation and Training
OT	OverTime
O/T	OverTime

OTA	Office of Technology Assessment
OTAS	On Top And Smooth
OTC	Out-of-Tolerance Check
OTC	Out-of-Tolerance Condition
OT&E	Operational Test and Evaluation
OTE	Output Time Error
OTFC	Overflight Traffic
OTH	Over the Horizon
OTH/B	Over-The-Horizon/Backscatter radar
OTLK	OutLook
OTOP	On TOP (parameter)
OTP	Office of Telecommunications Policy
OTP	On ToP
OTP	VFR On ToP
OTR	OTHeR
OTRW	OTHeRwise
OTS	Organized Track System
OTS	Out of Service
OTT	Optimum Terminal Timer (display channel outputs subsystem)
OU	Operational Unit
OUBD	OutBound (ICAO)
OUTB	OUTput untracked targets Buffer
OUTBUF	BUffered OUTput device record (adaptation record)
OUTP	OUTPut configuration-related data (monitor message ID)
OV	location of phenomena (PIREP only)
OVC	OverCast
OVD	OverDue
OVHD	OverHead
OVL	OverLap
OVLA	OverLAY
OVNGT	OverNiGhT
OV/OC	Over Voltage/Over Current
OVP	OverVoltage Protection
OVR	OverRide
OVRL	OverRLap weather display area of adjacent sites (parameter)
OVRN	OverRuN
OVSEA	OverSEAs
OVTk	OverTaKe
OW	One Way
OWF	Optimum Working Frequency
OXY	OXYgen

P	Pacific standard time
p	Page
P	Parity bit
P	Performance
P	Polar (air mass)
P...	Prohibited area (followed by identification) (ICAO)
PA	PARallax
PA	Precision Approach
PA	Pressure Altitude
PA	Priority Alert
PA	Public Address
PAAC	Pre-ACF Automation Complex
PABX	Private Automatic Branch Exchange
PAC	PACific
PACAF	PACific Air Forces (military)
PACCS	Post Attack Command and Control System
PACE	Performance Analysis by Continuous Evaluation
PACE	Programmable Aerospace Control Equipment
PACF	Parent FSS Assumes Control of Part-time FSS
PACMARF	PACific Military Altitude Reservation Facility (military)
PACT	PDL/Ada Architecture Construction Tool
PAD	Packet Assembler and Disassembler
PAD	Pilot Access Device
PADP	PDR/PAR Application Distance Parameter (parameter)
PADRA	Pass to Air Defense Radar
PAG	Project Administration Group
PAH	Protected Altitude High
PAJA	Parachute Jumping Activities
PAL	Programmable Array Logic
PAL	Protected Altitude Low
PALS	Precision Approach Lighting System (specify category) (ICAO)
PALT	Present ALTitude
PAM	Amendment Merge subroutine (posting determination subsystem)
PAM	Peripheral Adapter Module
PAM	Pulse Amplitude Modulation
PAMR	Peripheral Adapter Module Replacement
PAMRI	PAM Replacement Item
PAMRS	PAM Replacement System (superseded by PAMRI)
PAN-PAN	international radio-telephone emergency signal
PANS	Procedure for Air Navigation Services (ICAO)
PAP	Airport Posting subroutine (posting determination subsystem)
PAPI	Precision Approach Path Indicator
PAPP	Product Assurance Program Plan
P/AR	Peak-to-Average Ratio
par	paragraph
PAR	Performance Analysis Report
PAR	Performance Analysis RMA

PAR	Performance Appraisal Review
PAR	Performance/Availability/Reliability
PAR	Precision Approach Radar
PAR	Preferential Arrival Route
PAR	Preferential Arrival Route (adaptation record)
PARA	PARAgraph
PARDS	Precision Approach Radar Display System
PAREN	PARENtheses
PARL	PARalleL (ICAO)
PARS	Performance Analysis and Reporting System
PAR/SAR	Precision Approach Radar/Surveillance Approach Radar
PARTS	ARTS segments (adaptation record)
PAS	ARTS input Processor subprogram (preliminary processing subsystem)
PAS	Primary Address Space
PAT	ARTS coordination subroutine (posting determination subsystem)
PAT	PATtern
PAT	Production Assurance Test
PAT&E	Production Acceptance Test and Evaluation
PATF	Preferred Arrival route Transition Fix parameter
PATR	Preferential Adapted Transit Route
PATWAS	Pilots' Automatic Telephone Weather Answering Service
PAV	Pressure Altitude Variation
PAX	PASSenger(s)
PB	Phonetically Balanced
PB	Pilot Briefing
PB	Push Button
PBA	Push-Button Adapter (NADIN)
PBCT	Proposed Boundary Crossing Time (parameter)
P/B/D	Place/Bearing/Distance
PBH	Peak Busy Hour
PBI	Push-Button Indicator
PBL	ProbaBLE
PBM	Peak Busy Minute
PBPS	Primary PE Blip/Scan output threshold (parameter)
PBS	Public Buildings Services
PBX	Private Branch eXchange
PC	Parking Circuit
PC	Parameter Control
PC	Personal Computer
PC	Print Control
PC	Printed Circuit
PC	Printout routing Control (message ID)
PC	Processor Control
PC	Program Control
PC	Project Control
PC	ProtoCol
PCA	Physical Configuration Audit
PCA	Positive Control Area



PCA	Positive Controlled Airspace
PCA	Posting Combination Addressing subroutine (posting determination subsystem)
PCA	Preliminary Configuration Audit
PCAB	Processor CABinet
PCB	PolyChlorinated Biphenyls
PCB	Printed Circuit Board
PCBT	Printed Circuit Board Tester
PCC	Portland Cement (concrete) Company
PCC	Processor Connect Circuit (NADIN)
PCC	Program Control Center
PCCB	Program Configuration Control Board
PCCB	Project Configuration Control Board
PCD	interfacility coordination subroutine (posting determination subsystem)
PCD	ProCeed (ICAO)
PCD	ProCeeding (ICAO)
PCD	Production Common Digitizer
PCD	Program Control Division
PCDI	PVD Code Drop Interval (parameter)
PC-DOS	Personal Computer - Disk Operating System
PCE	CED input Processor subprogram (preliminary processing subsystem)
PCEM	Parametric Cost Estimating Model
PCF	Peripheral Control Function
PCFC	Primary PE Fail Count (parameter)
PCI	Product Configuration Identification
PCI	Program Configuration Identification
PCI	Program-Controlled Interrupt
PCI	Protocol Control Information
PCK	Pilot Check
PCL	Pilot-Controlled Lighting
PCL	Post-Conference List
PCM	Pulse Code Modulation
PCM	Processor Controller Maintenance
PCMG	Project Control Management Group
PCMG	Project Control Monitoring Group
PCMS	Program Control and Management System
PCN	Pavement Classification Number
PCO	Project Control Office
PCP	Primary Control Program
PCPN	PreCiPitation
PCR	Card Reader input Processor subprogram (preliminary processing subsystem)
PCRB	Program Change Review Board
PCRI	Pending Code Retention Interval (parameter)
PCS	Permanent Change of Station
PCS	Power Conditioning System (case File designator)
PCSDM	Preliminary Computer System Diagnostic Manual
PCSDM	Preliminary Computer System Operations Manual
PCSI	PVD Code Selection Interval (parameter)
PCSS	Power Conditioning System Service

PCT	Performance Characteristics Test
PCT	Priority Channel Time
PCT	Process Control Team
PCU	Printer Control Unit
PCU	Processor Control Unit (NADIN)
PCW	Page Control Word
PCWBS	Preliminary Contract Work Breakdown Structure
PC-XT	IBM Personal computer, XT model
PD	Panel Disconnect
PD	Partially Distributed
PD	Period
PD	Preliminary Design
PD	Probability of Detection
PD	Processing Duration
PD	ProDuction
PD	Program Directive
PD	Project Directive
PDA	Physical Device Address
PDAD	Proposed Draft ADdendum
PDAR	Preferential Departure and Arrival Route
PDAR	Preferential Departure and Arrival Route (adaptation record)
PDB	Partial Data Block
PDC	Display Channel inputs subprogram (preliminary processing subsystem)
PDC	Product Display Code
PDD	Program Description Document
PDD	Program Design Data
PDD	Program Design Document
PDE	DEC input Processor subprogram (preliminary processing subsystem)
PDET	Phase DETector
PDEV	Peripheral DEvice
PDF	Power Distribution Frame
PDF	Program Development Facility
PDF	Programmer Development Facility
PDIP	Programmable Indicator Data Processor
PDL	Process Design Language
PDL	Program Design Language
PDL	Program Design Logic
PDM	Program Description Manual
PDME	Precision Distance Measuring Equipment
PDMT	PreDoMinaTe
PDN	Public Data Network
PDOC	Proceed Directly On Course
PDP	Prototype Development Phase
PDP-11	a DEC computer model number
PDR	Preferential Departure Route
PDR	Preferential Departure Route (adaptation record)
PDR	Preliminary Design Review
PDR	Program Design Review
PDS	Packet Data Switch

PDS	Partitioned Data Set
pds	Physical Device Symbolic
PDS	Position Determination System
PDS	Program Design Specification
PDS	Prototype Demonstration Software
PDS	Prototype Design Software
PDSP	Proposed Departure Strip Printing (parameter)
PDT	Proposed Departure Time
PDT	Provide Delay Time
PDTF	Preferential Departure route Transition Fix parameter
PDU	Power Distribution Unit
PDU	Protocol Data Unit
PDVR	Parking DriveRs
PDW	Priority Delayed Weather
PE	ice PEllets (ICAO)
PE	Parallel Enable
PE	Parity Error
PE	Permanent Echo
PE	Phase-Encoded
PE	Phase-Encoding
PE	Program Element
PE	Protocol Emulator
PEAS	Positional Error Analysis Summary
PEAS	Position Error Analysis Subprogram (NAS/ARTS)
PEAS	Position Error Analysis Summary
PEAV	Permanent Echo Azimuth angle acceptable limit (parameter)
PEBC	Permanent Echo Beacon Code (parameter)
PECO	Peripheral Equipment CheckOut
PECO	Programmed Equipment CheckOut (OS maintenance support program)
PECS	Program Element Control Subsystem
PELOCATE	Permanent Echo LOCATE
PELOCATE	Permanent Echo LOCATor
PEM	Plant Equipment Modification
PEM	Position Entry Module
PEN	PENinsula
PENS	Permanent Echo Number of Scans (parameter)
PENT	PENeTrate
PENT	PENeTration
PEP	Partitioned Emulation Program
PEP	Performance Evaluation Plan
PER	PERformance (ICAO)
PER	Program Event Recording
PERCOM	PERipheral COMMunications
PERF	PERForator
PERFM	PERForMance
PERM	PERManent
PERQ	a computer-graphics work station
PERS	PERSon-to-person
PERT	Program Evaluation and Review Technique

PERT/CPM	Project Evaluation and Review Technique/Critical Path Method
PERV	Permanent Echo Range acceptable limit (parameter)
PESS	Program Element Synchronization Subsystem
PET	Permanent Echo Target
PET	Process Evaluation Tool
PEV	Permanent Echo Verification
PEVP	Permanent Echo Verification Printout
PF	Packet Fanout
pf	picofarad
pF	picoFarad
PF	Poll/Final bit
PF	Primitive Function
PF	Program Function
PF	Protein Foam
PFA	Probability of False Alarms
PFD	FDEP input Processor subprogram (preliminary processing subsystem)
PFDI	Proposed Flight plan Drop Interval (parameter)
PFDT	Past Fix Detection Interval (parameter)
PFE	Path Following Error
PFK	Perimeter Function Key
PFK	Programmable Function Key
PFKA	Peripheral Function Key Assembly
PFN	Path Following Noise
PFPSR	Print Flight Progress Strip Request (message ID)
PFS	PTT Foot Switch
PFSV	Pilot to Forecast Service
PFT	Posted Fix Time
PG	Pulse Generator
PGAT	Parking GATE
PGF	Presentation Graphics Feature
PGF	Pressure Gradient Force
PGM	Power unit installation/Maintenance
PGMR	ProGramMeR
PGQT	ProGramming system Qualification Test
PGTSND	PuGeT SouND
PH	Packet Handler
PH	Protocol Handler
PHA	Preliminary Hazard Analysis
PHASE	Procedure Handling of Alternate System Environments
PHEI	Prototype Human Engineering Inventory
PHO	PHase One adjacent center
PHOTINT	PHOTo INTelligence
PHS	Public Health Service
PHST	Packaging, Handling, Storage, and Transportation
PHS&T	Packaging, Handling, Storage, and Transportation
PHYS	PHYSical
PI	Packet Interface
PI	Program Improvement
PIAC	Peak Instaneous Airborne Count

PIAD	Pacific Island Air Defense
PIADR	Pacific Island Air Defense Region
PIAPT	Potential Impacted AirPort
PIB	Packet Interface Bus
PIBAL	Pilot BALloon observation
PIC	Payload Integration Contract
PIC	Pilot In Command
PIC	Priority Interrupt Controller
PICB	Peripheral Interface Control Bus
PICD	Preliminary Interface Control Document
PICO	Program Installation and Checkout
PIDAR	Pacific Island Air Defense Region (military)
PIDB	Peripheral Interface Data Bus
PIDD	Preliminary Interface Design Document
PIDP	Programmable Indicator Data Processor
PIDS	Prime Item Development Specification
PIO	Pilot-Induced Oscillation
PIO	Provisioning Item Order
PIP	Project Implementation Plan
PIR	Pilot Report (RWP)
PIR	Precision Instrument Runway
PIREP	Pilot REPort
PIREP	Pilot weather REPort
PIREPL	PIREP List
PIRFC	Pilot Requests ForeCast
PISE	no pilot balloon observation due to unfavorable sea conditions
PISO	no pilot balloon observation due to snow
PIT	IOT input Processor subprogram (preliminary processing subsystem)
PIT	Pilot Instructor Training
PIT	Protocol Interface Task
PIWI	no pilot balloon observation due to high or gusty surface winds
PIXELS	Picture ELEments
PJE	Parachute Jumping Exercise (ICAO)
PJJ	route-Posting supervisor subroutine (posting determination subsystem)
PKD	KVDT input Processor subprogram (preliminary processing subsystem)
Pkg	Package
PKO	ICAO input Processing subprogram (preliminary processing subsystem)
PL	Photometric Laboratory
PL/I	Programming Language/One
PLA	Practice Low Approach
PLA	Programmable Logic Array
PLAN	Private Line Airline Network
PLAP	Primary LSA Lateral Position smoothing constant (parameter)
PLASI	Pulse Light Approach Slope Indicator
PLAT	Present LATitude

PLATO	Programmed Logic for Automatic Teaching Operation
PLAV	Primary LSA Lateral Velocity smoothing constant (parameter)
PLC	Programmable Logic Controller
PLD	Program Design Language
PLD	Program Load Disk
PLF	advance Flow control qualifier subroutine (posting determination subsystem)
PLF	Private Line phone
PLG	PLanning
PLIN	Private Line Intercity Network
PLM	PLATO Learning Management
PLN	flight PLaN (ICAO)
PLOB	PLace Of Birth
PLONG	Present LONGitude
PLOP	Pressure Line Of Position
PLOP	Primary LSA LONGitudinal Position smoothing constant (parameter)
PLOTTER	Host PLOTTER
PLOV	Primary LSA LONGitudinal Velocity smoothing constant (parameter)
PLS	PLease
PLSP	Primary modified LSA Position smoothing constant (parameter)
PLSV	Primary modified LSA Velocity smoothing constant (parameter)
PLT	ALTitude amendment Merge subroutine (posting determination subsystem)
PLT	Private Line Teletypewriter
PLVL	Present LeVeL (ICAO)
PLW	PLoW (snowplow)
PM	after noon
PM	Periodic Maintenance
PM	Post Meridiem
PM	Preventive Maintenance
PM	Program Manager
PM	Project Manager
PM	Pulse Modulation
PMA	Preferred Machine Assets
PMB	Performance Measurement Baseline
PMB	Program Management Board
PMC	Procurement Method Coding
PMG	PAMRI Monitoring Group
PMG	Performance Monitor Group
PMG	Processor Monitor Group
PMI	Processor Maintenance Interface
PMIS	Personnel Management Information System
PMIS	Program Management Information System
PMIS	Project Management Information System
PMMS	Project Material Management System
PMO	interfacility route record Processing subroutine (posting determination subsystem)

PMO	Power Monitor Override
PMO	Program Management Office
PMP	Parts, Material, and Processes
PMP	Program Management Plan
PMP	Program Master Plan
PMP	Program Motor Plan
PMP	Project Master Plan
PMR	Program Management Review
PMS	Performance Management System
PMS	Performance Measurement System
PMS	Personnel Management Specialist
PMS	Program Management Staff
PMS	Program Management Subsystem
PMS	Program Management System
PMS	Project Management System
PMSN	PerMiSSION
PMSR	Program Maintenance Status Report
PMSR	Program Management Status Report
PMT	PerMiT
PMT	Photo Multiplier Tube
PMT	Power Monitor Tripped
PMTR	Program Maintenance Technical Report
PN	Prior Notice required (ICAO)
PNA	NAS input Processor subprogram (preliminary processing subsystem)
PNAMBC	Pay No Attention to the Man Behind the Curtain
PNB	Programmer's NoteBook
PNB	Programming NoteBook
PNHDL	PaNHanDLe
PNR	Point of No Return
PO	dust devils (ICAO)
PO	Post Office
PO	Purchase Order
POA	Privately Owned Aircraft
POB	Persons On Board (ICAO)
POC	Proceed on Course
POCC	Pacific Operations Control Center
POCC	Payload Operations Control Center
POD	Program Office Directive
POD	Program Organizational Design
PODM	Program Organization and Design Manual
PODS	Program Organization and Design Specification
POFA	Programmed Operational and Functional Appraisal
POM	Program Objective Memorandum
POMMR	FDP I/O Summary Report
POO	Principles Of Operation
POOL	message subPOOL defining data record (adaptation record)
POS	POSition
POS	POSitive
POS/NAV	POSition/NAVigation
POSAT	Polar Orbit SATellite

POST	Posting Determination Subsystem
POV	Privately Owned Vehicle
POWER	Priority Output Writers, Execution processors, and input Readers
pp	pages
PP	Patch Panel
PP	Pay Period
PP	Phase 1 flight plan Pointer (table)
P&P	Policy and Procedures
PP	Preliminary Processing
P/P	Present Position
PP	Program Product
PP	Printer Port
PPA	Project Plans Agreement
PPAAS	Preliminary Partitioning and Analysis of AAS Software
PPD	Policy and Procedures Directive
PPG	Primary Processing Group
PPI	Plan Position Indicator
PPI	Planned Position Indicator
PPIMS	Personal Property In-Use Management System
PPINA	radar weather report Not Available (or omitted for a reason different from those otherwise stated)
PPINE	radar weather report, no echoes reported
PPINO	radar weather report equipment inoperative due to breakdown
PPIOK	radar weather report equipment operation resumed
PPIOM	radar weather report equipment inoperative due to maintenance
PPL	Provisioning Parts List
PPM	Parts Per Million
PPO	POSting modification subroutine (posting determination subsystem)
PPR	Prior Permission Required
PPS	Plans and Programs Specialist
PPS	Precision Positioning Service
PPS	Program Performance Specification
PPS	Pseudo route record Processing subroutine (posting determination subsystem)
PPS	Pulses per Second
PPS&C	Program Practices Standards and Conventions
PPSL	Program Parts Selection List
PPSN	Present PoSition
PPSR	Program Plan Status Review
PPSR	Prototype Preshipment Review
PPST	Program Parts Selection Test
PQT	Performance Qualification Test
PQT	Preliminary Qualification Testing
PR	Photo Reconnaissance
PR	Pilot position Report
PR	Position Report
PR	Primary Reviewer



PR	Probability of Reply
PR	Probable
PR	Procurement Request
PR	Progress Report (message ID)
PRACA	Problem Reporting And Corrective Action
PRAM	PaRameter Adaptation record (adaptation record)
PRAR	Program Risk Analysis Report
PRAT	Production Reliability Acceptance Test
PRB	Program Request Block
PRBLTY	PRobaBiLiTY
PRC	PaRagraph Control word
PRC	Planning Research Corporation
PRCF	Parent FSS Returns Control of part-time FSS
PRCHT	PaRaCHuTe
PRCRMT	PRoCuReMenT
PRCTN	PReCauTion
PRECD	PRECeDe
PRED	PREDiction processing
PREF	PReFerence
PREF	PReFerred
PRELIM	PRELIMinary
PREMAP	PREcipitation and soil moisture MAPping
FREMIS	automated tool for project scheduling (computer program)
PREP	PREliminary Processing subsystem
PREP	PREParation
PRES	PRESSure
PRESFR	PRESSure Falling Rapidly
PRESRR	PRESSure Rising Rapidly
PRF	Problem/Resolution File
PRF	Program Resolution File
PRF	Pulse Recurrence Frequency
PRF	Pulse Repetition Frequency
PRGM	PRoGram
PRI	PRImary (ICAO)
PRI	Projection Readout Indicator
PRI	Pulse Repetition Interval
PRIE	PAM Radar Identification Equipment
PRIM	PRImary
PRIN	PRINcipal
PRIND	PResent INDications are
PRINTDIAG	COTS CC PRINTer DIAGnostics
PRIRA	PRImary RADar
PRKG	PaRKing (ICAO)
PRJMP	PRessure JuMP
PRM	PRocessor unit introduction/Maintenance manual
PRM	Program Requirements Management
PRMP	Program Risk Management Plan
PRMR	Primary printer load capacity
PRN	Program Release Notice
PRN	Pseudo-Random Noise
PROB	PROBability (ICAO)

PROC	PROCedure
PROCD	PROCeed
PROCR	PROCessor
Prod.	Product
PROFS	PROfessional Office System
PROFS	Program for Regional Observing and Forecasting Service
PROFS	Prototype Regional Observation and Forecast Service
PROFS	Prototype Regional Observing and Forecasting Service
PROG	PROGnosis
PROG	PROGress
PROJ	PROJect
PROJACS	PROJect Analysis and Control System
PROM	Programmable Read-Only Memory
PROMAP	automated tool for risk analysis (computer program)
PROP	ARTS III PROPOsed count (parameter)
PROP	PROPeller
PROPA	PROPagation
PROSIG	PROcedure SIGNAL
PROTN	PROcedure TurN
PROV	PROVisional (ICAO)
PRP	PRePare
PRPQ	Program Request for Price Quotation
PRR	Production Readiness Review
PRR	Program Readiness Review
PRR	Pulse Recurrence Rate
PRRC	Maximum Primary Data Count (parameter)
PRS	Project Reporting System
PRS	Provisioning Requirements Statement
PR/SM	Processor Resources/System Manager
PRSNT	PRSeNT
PRST	PeRSist
PRST	Probability Ratio Sequential Test
PRT	PRinTer
PRT	Pulse-Recurrence Time
PRT	Pulse-Repetition Time
PRT	Route amendment merge subroutine (posting determination subsystem)
PRTVT	Product Requirements Traceability Validation Team
PRVD	PRoViDe
PS	Passenger Service
PS	Planned Shutdown (message ID)
PS	Plus
PS	Power Supply
PS	Priority Status
PS	Product Specification
PS	Programmed Symbol(s)
PS	Program Specialist
PS	Project Status (used with TRMS)

PSA	Perimeter Switch Assembly
PSA	Preferential Storage Area
PSA	Primary Search Area
PSA	Problem Statement Analyzer
PSAI	Planned Shutdown Alert Interval (parameter)
PSB	Project Segment Branch
PSB	Sector Bypass subroutine
PSBA	Preferential Storage Base Address
PSBAR	Preferential Storage Base Address Register
PSBL	POSSIBLE
PSBS	Pilot Self-Briefing System
PSBT	Pilot Self-Briefing Terminal
PSCF	Problem Storage Control Function (posting determination subsystem)
PSCF	Process Storage Control Function
PSDN	Packet Switched Data Network
PSE	Peculiar Support Equipment
PSF	Programming Support Facility
PSFF	Printer Status Flip Flop
PSFK	Perimeter Soft Function Key
PSFK	Permanent Soft Function Key
PSG	PaSSaGe
PSG	PaSSinG (ICAO)
PSGR	PaSSenGeR
PSIG	Pounds-per-Square-Inch Gauge
PS&J	Power Supply and Junction Box
PSL	Problem Statement Language
PSL	Program Support Library
PSM	Peripheral Switch Module
PSM	Peripheral Switching Module
PSN	Packet Switching Network (NADIN)
PSN	POSiTiON
PSNL	PerSoNaL
PSNRP	POSiTiON RePOrt
PSP	Pierced Steel Plank (ICAO)
PSP	Phase SPliTter
PSPM	Preliminary Software Programmer's Manual
PSR	Packed Snow on Runway
PSR	Production Surveillance Representative
PSR	Program Status Review
PSRB	Program Schedule Review Board
PSRB	Program Status Review Board
PSRB	Project Status Review Board
PSRI	Position Subject to Return of Incumbent
PSRS	Position Subject to Rotating Shifts
PSS	Packet Switch Stream
PSSP	Primary SSA Position Smoothing Constant (parameter)
PSSV	Primary SSA Velocity Smoothing Constant (parameter)
PST	Pacific Standard Time
PSTN	Packet Switched Telephone Network

PSTN	Public Switched Telephone Network
PSTP	Preliminary Software Test Plan
PSU	Packet Switch Unit
PSUM	Preliminary Software User Manual
PSW	Program Status Word
PSWBS	Program Summary Work Breakdown Structure
PSWBS	Project Summary Work Breakdown Structure
PT	Physical Training
PT	Procedure Turn
PT	Program Trouble
PTC	fix-Time Calculation subroutine (posting determination subsystem)
PTC	Plan to Clear
PTC	Positive Target Control
PTC	ProtoType Console
PTCHY	PaTCHY
PTCI	Present Time Comparison Interval (parameter)
PTCP	ParTiCiPate
PTD	Proposed Time of Departure
PTD	Provisioning Technical Documentation
PT&E	Production Test and Evaluation
PTF	Program Temporary Fix
PTF	Program Trouble Fix
PTLY	ParTLY
PTM	Time amendment Merge subroutine (posting determination subsystem)
PTN	Portion
PTN	Procedure TurN (ICAO)
PTO	Message TimeOut subprogram (preliminary processing subsystem)
PTP	Point-To-Point
PTP	Project Transition Plan
PTPC	Paper Tape Punch Control (NADIN)
PTR	PrinTeR
PTR	Problem Tracking Resolution
PTR	Program Technical Report
PTR	Program Trouble Report
PTRC	Paper Tape Reader Control (NADIN)
PTS	Peripheral Transfer Switch
PTS	Polar Track Structure (ICAO)
PTS	Project Tracking System
PTSW	Peripheral Transfer SWitch
PT&T	Perforated Tape and Transmission
PTT	Push-To-Talk
PTUI	Posted Time Update Interval (parameter)
PTY	TTY input processor subprogram (preliminary processing subsystem)
PU	Power Unit
PUB	Process Unused Beacons
PUB	PUBlic
PUB	PUBlication
PUBL	PUBLish

PUNCH GEO	PUNCH map cards for DARC (NOSS Display Channel support program)
PUO	startup/startover processor subprogram (preliminary processing subsystem)
PUP	Peripheral Utility Program (IMCS)
PUP	Pick UP
PUP	Principal User Processor
PUP	Printer User Processor
PUT	Program Update Tape
PVA	Positive Vorticity Advection
PVC	Permanent Virtual Circuit
PVC	PolyVinyl Chloride
PVD	Plan View Display
PVD	Plan View Display (case file designator)
PVD	PVD Record (adaptation record)
PVL	PreVail
PVLT	PreVaLenT
PVOR	Precision VHF Omnidirectional Range
PVP	Planned Value Profile
PVS	Packet Voice Switching
PVS	Program Validation Service
PVT	PriVaTe
PW	Precipitable Water
PW	Pulse Wave
PW	Pulse Width
PWB	Pilot Weather Briefing
PWB	Printed Wiring Board
PWBS	Preliminary Work Breakdown Structure
PWBS	Program Work Breakdown Structure
PWI	Pilot Warning Indications
PWI	Pilot Warning Instrument
PWI	Proximity Warning Indicator
pW/km	Picowatts per kilometer
PWM	Physical Window Management
PWR	building environmental equipment (case file designator)
PWR	PoWeR
PWRNO	No poWeR (power failure)
PWROK	PoWeR OK (restored)
PWS	Personal request Station
PX	primary Power (E/G plant)
PXX	explicit message cancellation
PZSP	Projected altitude SeParation (parameter)

Q	correction applied to Ho of Polaris
Q	Quadrature phase signal
Q	squall (weather reports only)
QA	Automatic handoff (message ID)
QA	Quality Assurance
QA	Quick-Action
Q/A	Quick-Action
QA	QAK translate (table)
QAE	Quality Assurance Evaluation
QAK	Quick-Action Key
QAK	Quick-Action Keyboard
QAM	Quadrature Amplitude Modulation
QAP	Quality Assurance Patch
QAP	Quality Assurance Plan
QAP	Quick-Action Panel
QAPP	Quality Assurance Program Plan
QARP	Quick-Analysis Radar Program
QARS	Quality Analysis Radar Systems
QARS	Quick Analysis of Radar Sites (NAS maintenance support program)
QARSTAN	QARS STatistical ANalysis (OS maintenance support program)
QAS	Quality Assurance Specialist
QATS	Quality Assurance and Training Specialist
QB	Beacon code (message ID)
QBE	Query By Example
QBI	compulsory IFR flight (ICAO)
QC	Quality Control
QCD	Quality Control Diagnostic
QCS	Quality Control System
QCSP	Quality Control System Plan (NADIN)
QD	CRD (message ID)
QDM	magnetic heading (zero wind) (ICAO)
QDR	magnetic bearing (ICAO)
QF	FP readout request (message ID)
QFE	atmospheric pressure at aerodrome elevation (or runway threshold) (ICAO)
QFLOW	Quota FLOW control
QFQT	Quality Factors system Qualification Test
QFU	magnetic orientation of runway (ICAO)
QH	Hold (message ID)
QIG	Qualification Issues Group
QIKEY	QuIck action KEY (adaptation record)
QL	Quick Look
QLFY	QuaLiFY
QLTY	QuaLiTY
QMF	Query Management Facility
QN	"None" (message ID)
QN	Question
QNH	altimeter sub-scale setting to obtain elevation when on the ground (ICAO)
QNTY	QuaNtiTY

QOT&E	Qualification Operational Test & Evaluation
QP	PVD (message ID)
QQ	interim altitude (message ID)
QR	Reported altitude (message ID)
QRA	Quick Reaction Alert
QRC	Quick-Reaction Capability
QRO	Quality/Reliability Officer
QRTLY	QuaRTerLY
QSAM	Queued Sequential Access Method
QSLSA	Quantized Side-Lobe Suppressed ATRBS
QSLSD	Quantized Side-Lobe Suppressed Mode-S
QSR	Simulation Radar data management subprogram
QSS	Quick-Select Switch
QSTNRY	Quasi-STatioNaRY
QT	Quality Test
QT	Track (message ID)
QTAM	Queued Telecommunications Access Method
QT&E	Qualification Test & Evaluation
QTE	TruE bearing (ICAO)
QTR	QuarTeR
QU	route (message ID)
QUAD	QUADrant
QUE	QUEbec
QVM	Quiescent VM (instruction)
QWERTY	standard typewriter keyboard arrangement
QX	cancel (message ID)
QZ	assigned altitude (message ID)

R	acknowledgment of Receipt (message handling)
R	Radar controller
r	radius
R	Rain (weather reports only)
R	Red
R	Refraction
R	Registration
R	Reliability
R	Remarks indicator (FDE tower data)
R...	Restricted area (followed by identification) (ICAO)
R	Ring
RA	RAIn (ICAO)
RA	Registration Analysis
RA	Reported Altitude (message ID)
RA	Requirements Analysis
RA	Restore ARTS data base (message ID)
RA	software Requirements Analysis
RAA	Adapted direct Route processor subroutine (route conversion subsystem)
RAA	Regional Airlines Association
RAA	Responsibility/Authority/Accountability
RAAF	Royal Australian Air Force
RAAP	Recording, Analysis, And Playback
RABA	no RAWIN observation because no Balloons Available
RABAL	RADiosonde BALloon wind data
RABAR	RADiosonde BALloon Release
RAC	AEC special flight
RAC	Department of Energy special flight
RAC	Reliability Analysis Center
RAC	Request Altitude Change
RAC	Rules of the Air and air traffic services (ICAO)
RACE	Request Altitude Change En route
RACF	Resource Access Control Facility
RACF	Restricted Access Control Facility
RACFI	Radio And Communications Facilities Inoperative
RACO	no RAWIN Observation
RACON	RADar beaCON
RACON	RAdio responder beaCON
RAD	Arc Distance computation subroutine
RAD	RADar (case file designator)
RADAC	RADar Data Acquisition and evaluation
RADAR	RAdio Detection And Ranging
RADAT	RADiosonde observation DATa
RADC	Rome Air Development Center
RADCON	RADar CONversion (OS maintenance support program)
RADEP	RADar DEParture
RADLO	Regional Air Defense Liaison Officer
RADNO	report missing because of RADio failure
RADON	RADar BeaCON
RADON	RADar conversion subroutine (route conversion subsystem)



RADPET	RAr Data Processing Evaluation Tool
RADS	Radar Alphanumeric Display Subsystem
RADS	Radar Alphanumeric Display System
RADU	weather Radar Analysis and Development Unit
RAF	Royal Air Force
RAFC	Regional Area Forecast Center (ICAO)
RAFI	RAdiosonde observation not FIled
RAFRZ	RAdiosonde observation FReeZing levels
RAG	RAGged (ICAO)
RAG	Range Azimuth Gate
RAG	Range Azimuth Gating
RAG	Runway Arresting Gear (ICAO)
RAGF	Remote Air/Ground Facility
RAHE	no RAWIN observation, no gas available
RAI	Runway Alignment Indicator (ICAO)
RAICG	RAdiosonde observation, ICinG at ...
RAIL	Runway Alignment Indicator Lights
RAJAM	Radar JAMming
RAL	ALtitude transition processing subroutine (route conversion subsystem)
RAL	Requested ALtitude
RALM	Recovery ALarM
RALT	Regardless of ALTitude
RALT	Reported ALTitude
RAlt	Requested ALTitude
RAM	Random Access Memory
RAM	Reliability, Availability, and Maintainability
RAM	Responsibility Assignment Matrix
RAM	RMMS Architectural Model
RAM	Route conversion AMendment processor subroutine (route conversion subsystem)
RANK	Replacement AlphaNumeric Keyboard
RAMP	Radar Modernization Program (Canada)
RAMP	Reference AMplifier
RANT	Remote Automated NAS Test
RAOB	RAdiosonde OBservation
RAP	Airway conversion subroutine (route conversion subsystem)
RAP	Restricted Airspace Probe
RAPCON	Radar Approach CONTROL (USAF equivalent to TRACON)
RAPEP	Radar REPort
RAPI	RAdiosonde already sent in PIBAL collection
RAPID	RAdar Position Interactive Display
RAPID	RAPID (ICAO)
RAPID	RAPIDly (ICAO)
RAPPI	Random Access Plan Position Indicator
RAR	Requirements Analysis Report
RARAD	RAdaR ADvisory
RAREP	RAdar weather REPort
RARRE	Range, Azimuth Radar Reinforced Evaluator (OS maintenance support program)
RAS	Reliability, Availability, and Serviceability

RAS	Risk Analysis System
RASH	RAIn SHower (ICAO)
RASN	Rain And SNOW (ICAO)
RASR	Registration Analysis Sample Restriction (parameter)
R/ASR	Revisions AS Required
RASS	Radar Analysis Support System
RAST	Radar Antenna Scan Time
RAT	Report Address Table
RATCC	Radar Air Traffic Control Center (Navy equivalent to TRACON)
RATCC	Radar Approach Control (Navy equivalent to TRACON)
RATCF	Radar Air Traffic Control Facility (Navy equivalent to TRACON)
RATO	Rocket-Assisted TakeOff
RAVEC	RADar VECtor (to a geographical point)
RAVU	Radiosonde Analysis and Verification Unit
RAWARC	Reporting And WARning Coordination
RAWARE	Radar And WARning coordination
RAWE	no RAWIN observation, unfavorable WEather
RAWI	no RAWIN observation, high and gusty WInds
RAWIN	upper WInds observation (by radio methods)
RAWX	Returned Account Weather
RAZ	Range and AZimuth
RB	Radio Beacon
RB	Relative Bearing
RB	Request Block
RB	Resume Bulk store processing (message ID)
RB	Rescue Boat (ICAO)
RB	Restore ARTS III Base (message ID)
RB	Retransmit to ARTS (message ID)
RBC	Received Beacon Code
RBC	Reported Beacon Code
RBC	Rotating Beam Ceilometer
RBC	sector Boundary subroutine (radar processing and tracking subsystem)
RBCRF	Radar Beacon Codes assignable Record (adaptation record)
RBD	console Radar Display/equipment (case file designator)
RBD	Reliability Block Diagram
RBDE	Radar Bright Display Equipment
RBDE	Radar BRITE Display Equipment
RBDPE	Radar Beacon Data Processor Equipment (TPX-42)
RBN	Radio Beacon
RBP	Remote BANS Processor
RBPM	Radar Beacon Performance Monitor
RBPS	Radar/Beacon Parameter Status report
RBR	Buffer Reconstruction subprogram (radar processing and tracking subsystem)
RBS	Radar Beacon Simulator
RBS	Radar Beacon System

RBS	Radar Bomb Scoring
RBUF	Regulator BUffer
RBX	Restore Beacon transponder
RC	Radar Channel
RC	Radar Console, sector assignment request (message ID)
RC	Range Cell
RC	Reverse Course
RC	Road reConnaissance (military)
RC	SAR Recording Code
RC	sector assignment request (message ID)
RCA	Collimation Analysis subprogram (real-time quality control subsystem)
RCA	Radio Corporation of America
RCA	Reach Cruising Altitude (ICAO)
RCADS	Radar Control And Display Subsystem
RCADV	Reverse Course and ADVise
RCAG	Remote Center Air/Ground communications facility
RCAG	Remote Communications Air-to-Ground facility
RCAG	Remote Control Air/Ground
RCAG/NAVID	Remote Center Air/Ground communication facility/NAVigational aID
RCALT	Reach Cruising ALTitude
RCAN	Radar statistical Coverage ANalysis system
RCB	Remote Control Box
RCB	Reverse Channel Buffer
RCBT	Reverse Channel Break Timer
RCC	intercenter Coordinate and velocity transformation subroutine (radar processing and tracking subsystem)
RCC	Radar Console Channel
RCC	Radar Console Controller
RCC	Radar Controller Console
RCC	Radar Controls Controller (part of EDARC)
RCC	ReCirculate Control
RCC	Rescue Coordination Center
RCCC	Regional Communications Control Center
RCCR	Reset CCR (instruction)
RCCS	Radar Coverage Control site Status report
RCD	Conflict Detection subprogram (radar processing and tracking subsystem)
RCD	Radar Cloud Detection report
RCDNA	Radar Cloud Detection report Not Available
RCDNE	Radar Cloud Detection report No Echoes
RCDNO	Radar Cloud Detector inoperative due to breakdown until ...
RCDOM	Radar Cloud Detector inoperative due to Maintenance until ...
RCE	Radio Control Equipment
RCE	Remote Control Equipment
R-CED	Radar controller's CED
RCF	Radio Communications Failure message (ICAO)

RCF	Radio Control Facility
RCF	Remain on Company Frequency
RCF	Remote Communications Facility
RCF	Remote Control Facility
RCG	RCAG (case file designator)
RCH	ReaCH
RCH	ReaCHing (ICAO)
RCI	Radar Contact Indicator
RCIU	Radar Communications Interface Unit
RCIU	Remote Control Interface Unit
RCJB	Radar Control Junction Box
RCK	Radio Check
RCK	Ramp Check
RCKG	Read Clock Generator
RCKY	RoCKies (mountains)
RCL	Radar Communications Link
RCL	Radio Communications Link
RCL	Remote Communications Link
RCL	Reverse Control Latch
RCL	Runway Center Line (ICAO)
RCLANMS	Radio Communication Link Automatic Network Management Subsystem
RCLL	Runway Center Line Lights
RCLM	Runway Center Line Marking
RCLR	Radio Communication Link Repeater
RCLS	Runway Center line Lights System
RCLS	Runway Center Line System
RCLT	Radio Communication Link Terminal
RCM	Radar Controls Multiplexer (part of EDARC)
RCM	Requirements Compliance Matrix
RCM	Runway Configuration Management
RCMC	Radar Communications Multiplexer Controller
R-CMC	Radar Communications Multiplexer Controller
RCMD	ReCoMmenD
RCMDTN	ReCoMmenDaTion
RCMS	Runway Configuration Management System complex
RCN	Royal Canadian Navy
RCO	Radio Communications Outlet
RCO	Remote Communications Outlet
RCOD	general SIM Rate of Climb Or Descent (parameter)
RCOM	en Route CoMmunications
RCON	Radar keyboard multiplexer CoMmunications
RCON	ReCoNfiguration command (SE to CDC message)
RCON	ReCoNstitute data base (CDC message ID)
R-Console	Radar Console
R-Controller	Radar position Controller
RCP	Requirements Change Proposal
RCPO	Radar Collimation PrintOut
RCPT	ReCeIPT
RCR	Runway Conditions Reading
RCRA	Resource Conservation and Recovery Act
RCRD	Radar Computer Readout Display

RCRD	Radar controller's CRD
R-CRD	Radar controller's CRD
RCRD	ReCoRD
RCS	Radar Cross-Section
RCS	Radio Communications Subsystem
RCS	Reloadable Control Storage
RCS	Route Conversion Subsystem
RCSR	Radar Status Coverage Request
RCT	ReCTifier
RCTR	Refresh address CounTeR
RCU	Reconfiguration Control Unit
RCU	Remote Control Unit
RCV	ReCeive
RCVNO	ReCeiving capability out
RCVR	ReCeiveR
RCVR	ReCeiveR aircraft for air refueling
RCWP	Radar Controller's CRD Waiting Period (parameter)
RD	Display ARTS control figures (message ID)
RD	Range Delay
RD	ReaD circuit
RD	Request Disconnect
RD	Requirements Document
R&D	Research and Development
RD1	limited Radar surveillance
RD2	full Radar surveillance
RDA	Radar Data Acquisition
RDA	Radar Display Access method subprogram (display channel output subsystem)
RDA	Requirements Definition and Analysis
RDAD	Registration Data Azimuth Deviation (parameter)
RDAM	Radar Display Access Method
RDARA	Regional and Domestic Air Route Area
RDAS	Radar Data Acquisition Subsystem
RDAS	Radar Data Acquisition System
RDAT	Radar DATA (digitized)
RDAT	Radar DATA acquisition and tracking
RDAT	Radar DATA acquisition and transfer
R-DATA	Route DATA
RDB	Reconstitute Data Base (DCC)
RDB	Remote Data Block
RDBM	Remote Display Buffer Memory
RDC	Radar Discrete Correlation subroutine (radar processing and tracking subsystem)
RDC	Radar Display Channel
RDC	Raster Display Controller
RDC	Regional Distribution Center
RDCC	Research and Development Computer Complex
RDCP	Radar Data Count Printout
RDCS	Radar Data Count Summary printout
RDCS	Radar Display Channel Summary (specified time period) (parameter)
RD&D	Research, Development, and Demonstration

RDED	Radar Data Entry and Display
RDF	Radio Direction Finder
RDF	Research and Development Facility
RDG	RiDGe
RDH	Reference Datum Height (for ILS) (ICAO)
RDGT	Reliability Development/Growth Testing
RDIC	Referred Discard Indicator for CEDs (parameter)
RDIF	Referred Discard Indicator for FDEPs (parameter)
RDII	Referred Discard Indicator for IOTs (parameter)
RDL	RaDiaL (ICAO)
RDL	Research and Development Laboratory
RDLDS	Remote Data Logging and Diagnostic System
RDM	RAPPI Display Module
RDO	RaDiO
RDOF	RaDiO Failure
RDP	Direct-Route conversion subroutine (route conversion subsystem)
RDP	Radar Data Processing
RDP	Refresh output controller (ROC) Data Processor
RDR	Radar Data Recording
RDRD	Registration Data Range Deviation (parameter)
RDRI	Route Display Request Interval (parameter)
RDS	Radar Data Set
RDS	Radar Display Subsystem
RDS	kadar Display System
RDS	RAPPl Display System
RDSA	Sample Area selected codes count (parameter)
RDSS	minimum Registration Sample Size (parameter)
RDSS	Radar Data SubSystem
RDSS	Radio Determination Satellite Service
RDt&E	Research, Development, Test, and Evaluation
RDU	RAPPI Display Unit
RDUC	data ReDUction and analysis software
RDVR	Regulator DriveR
RDWND	Radar Dome WiND
RDX	arc Distance computation subroutine with fixed-point parameters (route conversion subsystem)
RDYN	ReaDY flag
RE	REcent (used to qualify weather phenomena) (ICAO)
RE	Reconfiguration Element
RE	Recording Equipment
RE	REplace ARTS control figures (message ID)
RE	Resident Engineer
REBAT	REference BATCS report
REC	RECeive (ICAO)
REC	RECeiver
REC	REcorder/reproducer system (case file designator)
REC	REcording
REC	Recording Control Processor
RECEP	RElative Capacity Estimating Process
RECO	Real Estate Contracting Officer

RECON	NASA Report and information system
RECON	Reference CONversation
RECONFORM	RECONFORMance
RECORD	RECORDing routine record (adaptation record)
RECOVERY	RECOVERY record (adaptation record)
RE&D	Research, Engineering, and Development
REDL	Runway EDge Light(s) (ICAO
REDUC	data REDUCtion and analysis software
REDUC	High-Resolution Timer (HRT) tape REDUCtion (NOSS DR&A program)
REF	E-MSAW Filter subprogram (radar processing and tracking subsystem)
REF	REFerence
REF	REFER to (ICAO)
REFONE	REFerence our PhONE conversation
REFORM	Reference FORM
REG	REGister
REG	REGulation
REG	REGulator
REGAL	Range and Evaluation Guidance for Approach and Landing
REI	REIL system (case file designator)
REIL	Runway End Identification Lights
REIL	Runway End Identifier Lights
REIL	Runway End Indicator Lights
REINV	Reference INVoice
REL	Runway Edge Lights
RELBL	RELiaBL
RELBLTY	RELiaBiLiTY
RELCT	RELoCaTe
RELET	Reference LETter
RELOCATE	permanent Echo LOCATor program
REM	Requirements Evaluation Manual
REM	Requirements Evaluation Model
REM	REsource Monitor
REMES	Reference MESSage
REMON	REsource MONitor
REMONR	REsource MONitor tape Reduction (NOSS DR&A Program)
REMT	Relief Electronic Maintenance Technician
RENL	Runway ENd Light(s) (ICAO)
RENOT	REGional NOTice
REOC	Report when Established On Course
REP	REPort (ICAO)
REP	REPorting (ICAO)
REP	REporting Point (ICAO)
REP	REPresent
REP	REPresentative
REP	REsearch Project
REPAML	REply by Air Mail
REPBS	Reference PBS message
REPERF	REPERF

REPL	REPLace
REPL	REPLace an operational element (monitor message ID)
REPLMT	REPLaceMent
REPMES	REPLy by MESSage
REPML	REPLy by Mail
REPTWX	REPLy by Teletype
REQ	REQuest
REQ	REQuested (ICAO)
REQ	REquirement
REQID	REquest If Desired
REQON	REquest consideration
REQRCM	REquest your ReCoMmendation
REQSTD	REqueSTeD
REQTRC	REquirements TRaCeability tool/technique (IBM)
RERI	Remote Error Referral Interval (TTY) (parameter)
ERM	Referred Error Rejection Message
ERTE	RERoute (ICAO)
RES	Remote Entry Services
RES	REServe
RES	RESident
RESC	RESeCtor
RESCUE	Re-Establish Computer-Usable Environment
RESOL	RESOLution
RESP	RESPonse
RESTR	RESTRict
RESTR	RESTRiction
RETI	Remote Error Timeout Interval (parameter)
RETMA	Radio, Electronic, Television Manufacturers Association
REV	REView
REV	REVision
REWRC	Report when Established Well to Right of Course
RF	Radio Failure
RF	Radio Frequency
RF	Register Full
RF	Request ARTS III transFer (message ID)
RF	Resolution Functions
RF	Force flight data transfer to ARTS (message ID)
RFA	Flight-plan-Aided tracking subprogram (radar processing and tracking subsystem)
RFA	Request For Action
RFA	Request For Approval
RFA	Request Further Analysis
RFC	River Forecast Center
R/FDED	Radar and Flight Data Entry and Display
RFDU	Reconfiguration Fault Detection Unit
RFF	Radar Flight Following
RFG	Radio Frequency Generation
RFG	Radio Frequency Generator
RFV	ReFerence Voltage
RFI	Radio Frequency Interference



RFI	Ready For Issue
RFL	ReFuel
RFL	Route conversion FLOW Control subroutine (route conversion subsystem)
RFM	Reconstruction subroutine (radar processing and tracking subsystem)
RFM	Remote Facility Module
RFMS	Runway Friction Measuring System
RFP	Referent Flight Plan
RFP	Request For Proposal
RFQ	Request For Quotation
RFR	Failed Radar site subprogram (real-time quality control subsystem)
RFS	ReFuSe
RFSP	Replacement Flight Strip Printer
RFSPCU	Replacement Flight Strip Printer Control Module
RFSR	Request Full Summary Report (monitor message ID)
RFTO	Ready For Takeoff
RFW	Request For Waiver
RG	Radar Gateway
RG	RanGe (lights)(ICAO)
RG	Reception Good
RGB	Red, Green, Blue (display colors)
RGBI	Red-Green-Blue Intensity
RGD	RaGgeD
RGLR	ReguLaR
RGM	Geo-Map processing subprogram (display channel output subsystem)
RGN	ReGion
RGS	Gnomonic plane to stereographic plane transformation subroutine (route conversion subsystem)
RGW	Radar GateWay
RH	Radar Handoff
RH	Relative Humidity
RHI	Range Height Indicator
RHINO	Radar echo Height Information NOT available
RHINO	Radar range Height Indicator NOT operating on scan
RHOTHETA	RHO/THETA display record (adaptation record)
RI	Richardson Number
RIA	Radar Interface Adapter
RIVC	Radio Interface Card
RIC	Radio Interface Controller
RICD	Raytheon Interrupt Control Document
RID	Review Item Discrepancy
RIF	Re-clearance In Flight (ICAO)
RIF	Reduction in Force
RIL	Release Interrupt Lockout
RIL	Repairable Items List
RIM	Relational Information Management system
RIMAT	must RId company MATerial

RIN	Radar INput processing subprogram (radar processing and tracking subsystem)
RIN	Radar INput processor
RIOGD	RIO GranDe
RIP	Routinely Ingested Product
RIPL	Rapid Intelligent Prototyping Laboratory
RIS	Report Identification Symbol
RIS	Required Information Set
RISC	Reduced Instruction Set Computer
RITE	Right (direction of turn) (ICAO)
RITS	RMMS Implementation and Tracking System
RIU	Radio Interface Unit
RIW	Reliability Improvement Warranty
RJE	Remote Job Entry
RJEF	Remote Job Entry Function
RJJ	Route conversion supervisor subroutine (route conversion subsystem)
RK	conflict alert status request (message ID)
RK	Receiver Keyer
RKM	Radar Keyboard Multiplexer
RKR	coded Route conversion subroutine (route conversion subsystem)
RL	Report immediately upon Leaving
RL	Report Leaving (ICAO)
RLA	ReLay to (ICAO)
RLA	Repair Level Analysis
RLANO	ReLay equipment out of operation
RLAOK	ReLay equipment resumed operation
RLBG	ReLative Bearing
RLC	Report Landing Complete
RLDB	Requirements List Data Base
RLEN	threshold Run LENgth (parameter)
RLETFL	Report Leaving Each Thousand-Foot Level
RLI	Line Intercept calculation subroutine (route conversion subsystem)
RLLS	Radius of LSA for Slow primary datum (parameter)
RLLS	Runway Lead-in Lighting System (ICAO)
RLS	ReLeaSe
RLSA	LSA discrete beacon correlation Search Area (parameter)
RLSB	LSA non-discrete Beacon Correlation search area (parameter)
RLSE	ReLeaSE
RLSP	Radius of LSA for Primary data (parameter)
RLSTN	ReLay StaTion
RLTV	ReLaTive
RM	Radar simulation (table)
RM	Refresh Memory
R&M	Reliability and Maintainability
RM	ReMarks
RM	Remote Managemen:t
RM	Remote Monitoring

RMA	Reliability, Maintainability, and Availability
RMAS	Retail Merchandise and Audit System
RMC	Refresh Memory Control
RMC	Remote Monitor Control
RMC	Remote Monitoring and Control
RMCC	Remote Monitor and Control Center
RMC-F	Remote Monitor Control - Flight service station
RMCF	Remote Monitor CPU Facility
RMCS	Remote Maintenance and Control System
RMCS	Remote Monitor and Control System
RMCU	RB Message Consecutive no-response UTMs (parameter)
RMDC	Refresh Memory Data Control
RMDT	Refresh Memory Descriptor Table
RMF	Resource Management Facility
RMF	Resource Monitoring Facility
RMI	Radio Magnetic Indicator
RMIOC	Refresh Memory Input/Output Control
RMK	ReMaRK
RMKS	ReMaRKS
RML	Radar Microwave Link
RML	Radio Microwave Link
RML	Remote Microwave Link
RML	Route Match Logic subroutine (radar processing and tracking subsystem)
RMLR	Radar Microwave Link Repeater
RMLT	Radar Microwave Link Terminal
RMM	Remote Maintenance Monitoring
RMM	RMMS (case file designator)
RMMC	Remote Maintenance Monitor Console
RMMC	Resume change message processing of equipment identities for SMMC (monitor message ID)
RMMS	Remote Maintenance Monitoring System
RMMSG	RMM Steering Group
RMN	Remain
RMP	Ralph M. Parsons Co. (a support contractor)
RMRK	ReMaRK
RMS	Recovery Management Support
RMS	Recovery Management System
RMS	Reference Message Source
RMS	Remote Maintenance Subsystem
RMS	Remote Monitoring Subsystem
RMS	Republic Management Systems (a support contractor)
RMS	Resume Mode Startover (DCC)
rms	root mean square
RMS	Root Mean Square
RMSC	Remote Monitoring Subsystem Concentrator
RMSC	Remote Monitoring System Concentrator
RMT	Reverse Motion Tension
RMU	Refresh Memory Unit
RMUX	Radar MultipleXer
RM/VG	Refresh Memory/Video Generator

RN	Reception Nil
RN	Reference Name
RN	Requirement Number
RNAV	Area NAVigation
RNAV	Radio NAVigation
RNC	Registration record (adaptation record)
RNDZ	ReNDeZvous
RNFL	RaiNFall
RNG	Army National Guard
RNG	radio RaNGe (ICAO)
RNG	RaNGe
RNGBRG	RaNGe BeaRing record (adaptation record)
RNPC	Required Navigation Performance Capability
RNR	Receiver Not Ready
RNWy	RunWay
RO	Read-Only
RO	Receive Only
R/O	Receive Only
RO	Regional Office
RO	Regulated Output
ROAR	Read-Only Address Register
ROBEPs	Radar Operating BElow Prescribed Standards
ROBEX	Regional OPMET Bulletin EXchange (scheme) (ICAO)
ROC	Radar Operations Center
ROC	Rate Of Climb (ICAO)
R/OC	Receive-Only Center
ROC	Refresh Output Control
ROC	Refresh Output Controller
ROC	Regional Operations Center
ROC	Required Obstruction Clearance
ROC	Required Operational Capability
ROCC	Radar Operations Control Center (military)
ROD	Rate Of Descent (ICAO)
RODA	Regardless Of Destination Airport
ROE	Rules of Engagement
RoF	Route of Flight
ROFOR	ROUte FORecast (in aeronautical meteorological code) (ICAO)
ROI	Return on Investment
ROLET	Reference Our LETter
ROM	Read-Only Memory
ROM	Rough Order of Magnitude
ROMEMO	Reference Our MEMOrandum
ROMES	Reference Our MESsage
RON	Receiving ONLY (ICAO)
ROOX	Radar Origin Offset, X direction (parameter)
ROOY	Radar Origin Offset, Y direction (parameter)
ROP	Receive-Only Printer
ROPBS	Reference Our PBS message
RORQN	Reference Our Requisition
RORU	Rest Of Route Unchanged
ROS	Read-Only Storage

ROSDR	Read-Only Storage Data Register
ROT	ROTate
ROTR	Receive-Only Teletype page printer
ROTEL	Reference Our TELegram
ROTG	ROTatinG
ROTWX	Reference Our TWX
ROV	Report OVer
R/P	Recording/Playback
RP	Right traffic Pattern
RP	track recording status request (message ID)
RPA	fix Posting Area trace subroutine (route conversion subsystem)
RPA	Request Present Altitude
RpAlt	Reported Altitude
RPAT	Radar Processing And Tracking
RPAT	Radar Processing And Tracking control
RPAT	Radar Processing And Tracking deviation report
RPAT	Radar Processing And Tracking subsystem
RPBD	Radar Performance Beacon standard Deviation parameter)
RPBN	Radar Performance Beacon Nominal range (parameter)
RPC	Real Property Custodian
RPCR	Radar Performance Cone-of-silence Range (parameter)
RPD	RaPiD
RPE	Radar Processing Equipment
RPF	airspace determination subroutine (route conversion subsystem)
RPFOD	RePorted FOr Duty
RPG	Radar Product Generator
RPG	Report Program Generator
RPG	Rocket-Propelled Grenade
RPIE	Real Property Installed Equipment
RPL	Repetitive flight PLaN (ICAO)
RPL	Replaceable Parts List
RPL	Replace Parts List
RPL	Report Procedure Language
RPL	Routing Packet Link
RPLC	RePLaCe (ICAO)
RPLC	RePLaCed (ICAO)
RPM	Real Property Manager
RPM	Reliability Planning and Management
RPM	Revolutions Per Minute
RPMS	Real Property Management System
RPMS	Region Program Management System
RPOC	Report Proceeding On Course
RPPD	Radar Primary standard Deviation (parameter)
RPPN	Radar Performance Primary Nominal range (parameter)
RPQ	Request for Price Quotation
RPR	adapted departure and/or arrival Route Processor subroutine (route conversion subsystem)

RPR	Requirement Problem Report
RPRMS	Regional Project Reporting and Management System
RPRT	RePoRT
RPS	Realtime Programming System
RPS	Radar Position Symbol (ICAO)
RPS	Rotational Positional Sensing
RPU	RAPPI Processor Unit
RPV	Remotely Piloted Vehicle
RQ	ReQuest
RQCL	ReQuest CLearance
RQDCZ	ReQuest clearance to Depart VFR and leave Control Zone at ...
RQECZ	ReQuest clearance to Enter Control Zone VFR at ...
RQG	Radar Quantization Group
RQG	Radar Quantizer Group
RQMNTS	ReRequireMeNTS (ICAO)
RQMT	ReRequireMeNT
RQN	ReQuisition
RQP	ReQuest flight Plan (message type indicator)(ICAO)
RQP	ReQuest Permission
RQRD	ReQuiReD
RQRP	ReQuest RePly
RQS	ReQuest Supplementary flight plan message (ICAO)
RQST	ReQueST
RQT	Reliability Qualification Test
RQTAO	ReQuest Time and Altitude Over
RR	low- or medium-frequency Radio Range station
RR	Radar Range station
RR	Receiver Ready
R&R	Repair and Return
RR	Report immediately upon Reaching
RR	Report Reaching (ICAO)
RR	ReRoute message
RRA	(or RRB, RRC...etc., in sequence) delayed meteorological message (message type designator) (ICAO)
RRA	Radar Receiver Adapter
RRA	Registration Analysis subprogram (real-time quality control subsystem)
RRBN	Round RoBiN
RRC	Radar slant-Range and time Correction subroutine (radar processing and tracking subsystem)
RRCS	Remote Radio Control System
RRCVR	Remote ReCeiveR
RRD	preferential departure/arrival Route segment processor subroutine (route conversion subsystem)
RRD	Risk Reduction Demonstration
RRDA	first filter threshold for Range Registration Deviation (parameter)
RRDB	Remote Requirements Data Base
RRDB	second filter threshold for Range Registration Deviation (parameter)

RRDS	Radar Remote Data Set
RRDS	Relative Record Data Set
RRH	Remote Reading Hygrothermometer
RRH	Remote Readout Hygrothermometer
RRH	Remote Rendering Hygrothermometer
RRL	Runway Remaining Lights
RRP	Repetition Rate Period
RRP	Request Reply Product
RRP	Runway Reference Point
RRPD	Runway Reference Point Downwind
RRPU	Runway Reference Point Upwind
RRS	Radar Remote Service
RRS	Red Ribbon Shift (on typewriter)
RRS	Remainder of Same Route
RRTE	ReRouTE
RRW	RRWDS (case file designator)
RRWDS	Radar Remote Weather Display System
RRWDS	Remote Radar Weather Display Subsystem
RRWDS	Remote Radar Weather Display System
RRWI	R-CRD Reroute Waiting Interval (parameter)
RRWS	Radar Remote Weather Service
RS	Receiver Station
RS	Remove flight plan from Storage (message ID)
RS	Remove Strip (message ID)
RS	ReSUMe transmission (message)
RS	Right Side
RSB	Radar Sort Box
RSB	Radar Sort Box record (adaptation record)
RSC	Rescue Sub-Center (ICAO)
RSCANS	Radar Statistical Coverage ANalysis System (OS maintenance support program)
RSCD	Runway Surface ConDition (ICAO)
RSCS	Remote Spooling Communications Subsystem
RSCS	Remote Spooling Communications System
RSCT	Radar Site Control Table
RSCU	ReSCUe
RSF	Remote Support Facility
RSF	Research Support Facility
RSFI	Radar Site Failure Interval (parameter)
RSG	Stereographic plane to Gnomonic plane transformation subroutine (route conversion subsystem)
RSI	Report Specification Interface
RSITE	natural Radar SITE record (adaptation record)
RSL	idle-time radar data processor subprogram (radar processing and tracking subsystem)
RSL	Recovery System Library
RSL	Regulatory Support Laboratory
RSLI	Route Segment Limit Interval (parameter)
RSLS	Receive Side-Lobe Suppression
RSMP	ReSuMe Poll (Monitor message ID)
RSO	Regional Sector Office

RSO	Scan-Oriented quality control subprogram (real-time quality control subsystem)
RSOPN	ReSUmEd OPeratiON
RSP	Remote Status Panel
RSP	Remote Strip Printer
RSP	ReSPonder beacon (ICAO)
RSPA	Research and Special Programs Administration
RSQ	Radar Sort Queue
RSR	en Route Surveillance Radar (ICAO)
RSS	Refresh SubSystem
RSS	Remote Speaker System
rss	root sum squared
RSSB	Radius of SSA for Beacon datum (parameter)
RSSC	Radar Site Status Change printout
RSSP	Radius of SSA for Primary datum (parameter)
RSSR	Radar Site Scan Rate (parameter)
RSSS	Radius of SSA for Slow primary datum (parameter)
RSTN	ReSTriCTION
RSTNS	ReSTriCTIONS
RSTR	ReSTRict
RSU	Runway Supervisory Unit
RSVN	ReSerVatiON
RT	Radar data (table)
R/T	Receive/Transmit
R/T	Receiver/Transmitter
RT	Reperforator Transmitter
RT	Residual Time
RT	Response Time
RT	Right Turn
RT	Round Trip
RT	Track Recording (message ID)
RTAC	Real-Time Adaptive Control
RTADS	Remote Tower Alphanumeric Display Service
RTAM	Remote Teleprocessing Access Method
RTAR	Resume TAR Recording
RTB	Return To Base
RTC	Real-Time Clock
RTC	Reply Type Code
RTC	Return To Course
RTCA	Radio Technical Commission for Aeronautics
RTCO	Route Truncation Center Option
RTD	Delayed (used to indicate delayed meteorological message) (message type designator) (ICAO)
RTD	Round Trip Delay
RTD	RouTine Delayed
RTD	Transition Determination subroutine (route conversion subsystem)
RTDB	Requirements Traceability Data Base
RTE	Remote Terminal Emulator
RTE	RouTE
RTF	Radar Training Facility
RTF	Radio Telephone



RTG	beacon/primary Radar message processing subprogram (radar processing and tracking subsystem)
RTG	Radio TeleGraph
RTG	Routing Table Generator
RTHL	Runway ThresHold Lights (ICAO)
RTL	Released Target List
RTM	Recovery Termination Management
RTMTR	Remote TransMitTeR
RTN	ReTurN (ICAO)
RTN	ReTurNed (ICAO)
RTN	ReTurNing (ICAO)
RTN	Return To Normal
RTND	ReTaiNeD
RTNE	RouTiNE
RTO	Report Time Over
RT PC	RISC Technology Personal Computer
RTQC	Real-Time Quality Control
RTQC	Real-Time Quality Control subsystem
RTR	Radio Transmitter/Receiver
RTR	Remote Transmitter/Receiver
RTR	Returning To Ramp
RTRD	ReTaRD
RTRDS	Remote Tower Radar Display Service
RTRN	ReTuRN
RTS	Real-Time System
RTS	Request To Send
RTS	Requirements Tracking System
RTS	Return To Service
RTSS	Run-Time Support System
RTT	Radio TeleTypewrite
RTT	Response Time Tool (NOSS DR&A program)
RTTWE	Remote TeleTypeWriter Equipment
RTTY	Radio Telecommunications (radioteletype)
RTU	Remote Terminal Unit
RTVT	Requirements Traceability Verification Team
RTX	Report Time crossing
RTZL	Runway Touchdown Zone Lights (ICAO)
RU	Range Unit
RU	Reconfiguration Unit
RU	Refresh Unit
RUF	RoUgh
RUFORM	Reference your FORM
RULET	Reference your LETter
RUMEMO	Reference Your MEMO
RUMES	Reference Your MESSage
RUMINT	RUMor INTelligence
RURQN	Reference your ReQuisition
RUT	standard regional RoUte transmitting frequencies (ICAO)
RUTEL	Reference your Telegraph
RUTWX	Reference your TWX
RV	Radar Vectors

RV	Rescue Vehicle (ICAO)
RVD	E-MSAW Violation Detection subprogram (radar processing and tracking subsystem)
RVD	Radar Video Digitizers
RVDP	Radio Video Data Processor
RVESS	RMMS and VSCS Engineering Support Services
RVM	Requirements Verification Matrix
RVO	Runway Visibility Observer
RVP	Requirements Validation Paper
RVR	Runway Visual Range
RVS	ReViSe
RVV	Runway Visibility Value
RVV	Runway Visual Value
RVVNO	Runway Visibility Value not available
RW	Rain shoWer (weather report only)
R/W	Read/Write
RWD	Radar Write-Direct processing subroutine (radar processing and tracking subsystem)
RWIN	Reroute Waiting INterval (parameter)R
RWP	Real-time Weather Processor
RWRC	Remain Well to Right of Course
RWY	RunWaY (configuration in use)
RWY	RunWaY (FDE tower data)
RWYCFGN	RunWaY ConFiGuration
RWY WP	RunWaY WayPoint
RX	Receive
RX	Receiver
RX	Remove data from NAS storage but retain in ARTS storage (message ID)
RY	RunwaY
RZ	flow control FP cancellation (message ID)
RZ	Return to Zero
RZC	Radar Zenith Cone
RZM	altitude Maintenance subroutine (radar processing and tracking subsystem)
RZPT	RendeZvous Point

S	Search (radar)
S	second(s)
S	Select (Mode S sensor)
S	Similarity
S	Single backspace key
S	Snow (weather reports only)
S	South
S	Southern latitude (ICAO)
S	Space
SA	Duststorm (sandstorm, rising dust or rising sand) (ICAO)
S/A	Semi-Annual
S.A.	Sterile Area
SA	Structured Analysis
SA	Supervisory "A" 1052 Typewriter
SA	Surface Aviation
SA	Surface observation
SA	Surface-to-Air
SA	Surveillance Approach
SA	Switch Activity (message ID)
SA	Systems Assurance
SAA	input standardization subroutine (preliminary processing subsystem)
SAA	Systems Application Architecture
SAAS	Stand-Alone Assembly System
SAB	field delineation subroutine (preliminary processing subsystem)
SABH	Simultaneous Automatic Broadcast Homer
SABM	Set Asynchronous Balanced Mode
SAC	field 00 processor subroutine (preliminary processing subsystem)
SAC	Scanner Address Counter
SAC	Strategic Air Command (USAF)
SACLO	Strategic Air Command Liaison Officer
SAD	field 01 processor subroutine (preliminary processing subsystem)
SAD	System Activity Display
SAD	Systems Allocation Document
SAE	correction application subroutine (preliminary processing subsystem)
SAF	initial message storage subroutine (preliminary processing subsystem)
SAF	Satellite ARTS Facility
SAF	Single Frequency Approach
SAF	Suspend Altitude Flag
SAFA	Separation Assurance Feasibility Assurance
SAFI	Semi-Automatic Flight Inspection
SAFI	Semi-Automatic Flight Inspection aircraft
SAFI	Semi-Automatic Flight Inspection analysis (OS maintenance support program)
SAG	response generator subroutine (preliminary processing subsystem)

SAGE	Semi-Automatic Ground Environment
SAGE	Semi-Automatic Ground Environment system
SAH	function analysis subroutine (preliminary processing subsystem)
SAHF	Semi-Automatic Height Finder
SAID	dynamic SIM flight Aircraft ID
SAK	data compression subroutine (preliminary processing subsystem)
SAL	Security Authorization List
SALS	Short Approach Lighting System
SALS	Shortened Approach Light System
SAM	Sequential Access Method
SAM	System Acquisition Management
SAM	message discard notification subroutine (preliminary processing subsystem)
SAM	Sequential Access Method
SAM	Surface-to-Air Missile
SAMD	Average Magnetic Declination of a center's area (parameter)
SAMF	Surveillance Advanced Message Format
SAMP	Servo AMPLifiers
SAN	SANitary (ICAO)
SAN	SANitation system
SAN	TI/TU message field delineator subroutine (preliminary processing subsystem)
SAO	Surface Aviation Observation
SAO	Surface Aviation Outline
SAP	as Soon As Possible (ICAO)
SAP	SAO Alert Procedure
SAP	Site Activation Plan
SAR	Search And Rescue
SAR	Simulation And Recording
SAR	Storage Address Register
SAR	Subsequent Application Review
SAR	Synthetic Aperture Radar
SAR	System Analysis Recorder
SAR	System Analysis Recording
SARAH	Semi-Automatic Range, Azimuth, and Height
SARC	Set Active Recording Category (monitor message ID)
SARC	System Acquisition Review Council
SARC	System Analysis Recording Category
SARCC	Search And Rescue Coordination Center
SARDA	State And Regional Disaster Airlift
SARM	Search And Rescue Mission number
SARM	Set Asynchronous Response Mode
SARMS	Small Airport RMS
SARPS	Standards And Recommended Practices
SARS	Software Automatic Reporting System
SARSAT	Search And Rescue SATellite
SAS	Secondary Address Space
SAS	Service-A System
SAS	Stand-Alone automated test Simulator

SAS	Stand-Alone Simulator
SAS	Stand-Alone System
SAS	Standby Address Space
SAS	Statistical Analysis System
SASC	Systems and Applied Sciences Corporation
SASF	Spacing And Separation Feasibility
SASK	SASKatchewan
SASS	Status Accounting Software Subsystem
SAT	SATurday
SAT	Site Acceptance Tests
SAT	System Acceptance Test
SATF	System Analysis Tape File
SATFY	SATisFactory
SATPL	System Acceptance Test PLan (NADIN)
SATR	Set Address Translation Register of a non-operational element (monitor message ID)
SATR	So As To Reach
SAVASI	Simplified Abbreviated Visual Approach Slope Indicator
SAWRS	Supplementary Aviation Weather Reporting System
SAWRS	Supplied Aviation Weather Report Station
SB	Small Business
SB	SouthBound (ICAO)
SB	Storage Building
SBA	communications table management subroutine (preliminary processing subsystem)
SBA	Small Business Administration
SBAO	Special field "E" Alphanumerics associated with special Beacon code "SBCO" (parameter)
SBAT	Special field "E" Alphanumerics associated with special Beacon code "SBCT" (parameter)
SBB	table MW management subroutine (preliminary processing subsystem)
SBCO	Special Beacon Code associated with "SBAO" (parameter)
SBCT	Special Beacon Code associated with "SBAT" (parameter)
SBD	table FPCR management subroutine (preliminary processing subsystem)
SBE	table FY management subroutine (preliminary processing subsystem)
SBF	table FC management subroutine (preliminary processing subsystem)
SBFC	Stand By for Further Clearance
SBRC	Single Board Raster Controller
SB/SDB	Small Business/Small Disadvantaged Business
SC	Sector index (table)
SC	Segment Count
SC	Selector Channel
SC	Special Committee
SC	Speed Classified
SC	StratoCumulus

SC	Success Criteria
SC	Success Criterion
SC	Success requirements/evaluation Criteria
SC	Support Contractor
SC	System Configuration
SC	System Console
SC	System Controller
SCA	field 02 processor subroutine (flight data processing subsystem)
SCA	Sneak Circuit Analysis
SCADA	Supervisory Control and Data Acquisition
SCADS	Sector Combining and Decombining Situations
SCAMLS	Small Community Airport MLS
SCAN	Self-Correcting Automatic Navigation
SCAN	Switch Circuit Automatic Network
SCANO	Automatic Scanning unit Out of Service
SCAOK	Automatic Scanning unit returned to service
SCAT	Security Control of Air Traffic
SCATANA	Security Control of Air Traffic and Air Navigation Aids
SCATHA	Spacecraft Charging At High Altitudes
SCB	field 03 processor subroutine (flight data processing subsystem)
SCB	Serial Communications Board
SCC	Scanner Control Card
SCC	Standards Council of Canada
SCC	Systems Command Center
SCCB	Software Configuration Control Board
SCCR	Set CCR (instruction)
SCCS	Source Code Control System
SCCU	System Console Control Unit
SCD	field 05 processor subroutine (flight data processing subsystem)
SCD	Specification Control Document
SCD	Specification/source Control Drawing
SCD	State Counter Decoder
SCE	field 06 processor subroutine (flight data processing subsystem)
SCE	System Cost Effectiveness
SCF	field 07 processor subroutine (flight data processing subsystem)
SCFM	Standard Cubic Feet per Minute
SCG	field 08/09 processor subroutine (flight data processing subsystem)
SCG	Software Coordination Group
SCGM	Standard Course Generation Method
SCH	field 10 format check subroutine (flight data processing subsystem)
sch	search
SCH	Sector boundaries, High (RWP)
SCI	Selector Channel Interface
SCIA	Selector Channel Interface A

SCIB	Selector Channel Interface B
SCID	dynamic SIM flight Computer ID
SCID	SeCtor Index record
SCIP	Surveillance and Communications Interface Process
SCIP	Surveillance and Communications Interface Processor
SCIP	Surveillance and Communications Interim Processor
SCJ	field 10 logic check subroutine (flight data processing subsystem)
SCK	field 11 processor subroutine (flight data processing subsystem)
SCL	Sector boundaries, Low (RWP)
SCLN	SemiCoLoN
SCM	field 18 processor subroutine (flight data processing subsystem)
SCM	Software Configuration Management
SCM	System Candidate Memorandum
SCMP	Software Configuration Management Plan
SCMS	Storage and Communications Management Subsystem
SCMS	System Console Maintenance Subsystem
SCMS	System Control and Maintenance Support
SCMS	System Control and Maintenance System
SCMSP	System Control and Maintenance Support Processor
SCN	field 21 processor subroutine (flight data processing subsystem)
SCN	Specification Change Notice
SCND	SeCoND
SCON	Set CONfiguration function
SCON	Set CONfiguration control register of a non-operational element (monitor message ID)
SCON	Set CONfiguration register
SCOPE	System CheckOut of Peripheral Equipment (NAS maintenance support program)
SCP	field 22 processor subroutine (flight data processing subsystem)
SCP	Simulation Call Processor
SCP	Software Change Proposal
SCP	System Control Program
SCPC	Single Channel Per Carrier
SCPI	Selector Channel utilization Print Interval (parameter)
SCR	route field merge subroutine (flight data processing subsystem)
SCR	Software Commitment Review
SCR	Specification Clarification Request
SCS	Single-Channel Simplex
SCSI	Small Computer Software Interface
SCSI	Small Computer System Interface
SCSL	Standing Lenticulate StratoCumulus
SCSW	Speed Control Switching
SCT	SCaTtered
SCT	Selected Code Table

SCT	Systems Control Technology, Inc. (a support contractor)
SCTH	Selector Channel utilization print THreshold (parameter)
SCTIS	Single-Channel Transponder Injection Subsystem
SCTR	SeCToR
SCTY	SeCuriTY
SCU	Source eligibility Check subroutine (flight data processing subsystem)
SCU	Storage Control Unit
SCU	System Control Unit
SCV	beacon code allocation subroutine (track data processing subsystem)
SCV	Sub-Clutter Visibility
SCX	coordinate conversion subroutine (flight data processing subsystem)
SD	Sector Display
SD	SemiDiameter
SD	Senior Director
SD	Sensitive Detector
SD	Software Development
SD	Special Designator
SD	Start Delay (message ID)
SD	Subcontract Directive
SD	Situation Display
SD	System Development
SDA	fix, FRD, and lat/long format check and fix search subroutine (flight data processing subsystem)
SDB	CID conversion subroutine (flight data processing subsystem)
SDB	Small Disadvantaged Business
SDB	System Design Briefing
SDBD	Software Data Base Document
SDBG	Data Base Generator (NOSS display channel support program)
SDBY	Stand By
SDC	message pending correction feedback subroutine (preliminary processing subsystem)
SDC	Single Drift Correction
SDC	Station Direction Code (TTY)
SDC	System Development Corporation (a support contractor)
SDCS	Supervisory Data Communications Specialist
SDCT	Site Development/Construction Tools
SDD	RC-to-RO conversion subroutine (flight data processing subsystem)
SDD	Software Design Data (NADIN)
SDD	Software Design Document
SDD	Subsystem Design Data
SDD	Subsystem Design Description
SDD	Subsystem Design Document
SDD	System Design Data



SDD	System Design Document
Sddb	System Design Data Base
Sddd	ground Speed in tens of knots
SDDD	Software Detailed Design Document
SDDL	Software Design and Documentation Language
SDE	fix compare subroutine (flight data processing subsystem)
SDF	Screen Definition Facility
SDF	Simplified Directional Facility
SDF	Software Development File
SDF	Software Development Folder
SDG	duplicate flight plan search subroutine (flight data processing subsystem)
SDHS	Satellite Data Handling System
SDI	Strategic Defense Initiative
SDL	Software Development Laboratory
SDL	Software Development Library
SDL	Subprogram Design Logic
SDL	Subsystem Design Logic
SDL	System Development Laboratory
SDLC	Synchronous Data Link Control
SDLCCB	SDL Configuration Control Board
SDM	Standby Data Management
SDM	Subsystem Diagnostic Monitor
SDM	Surveillance Data Management
SDM	Surveillance Design Memorandum
SDMA	Storage Device Migration Aid
SDMP	System Diagnostic Monitor Program
SDP	duplicate list processor subroutine (inquiry processing subsystem)
SDP	Site Design Package
SDP	Software Development Plan
SDP	Surveillance Data Processing
SDPE	Special Design Protective Equipment
SDPP	Software Development Project Plan
SDPW	Software Development Plan Worksheet
SDR	looped SIM Drive System (NOSS support program)
SDR	Simulation DriveR
SDR	Site Data Report
SDR	Storage Data Register
SDR	System Design Review
SDRL	Subcontract Data Requirements List
SDRL	Supplier Data Requirements List
SDS	Software Development System
SDS	Subprogram Design Specification
SDSP	System Display management
SD-TTP	System Development - Technical Transition Point
SDU	amendment output initiator subroutine (flight data processing subsystem)
SDU	Select Display Unit
SDU	Service Data Unit
SDVR	Servo DriveRs

SDW	flat tracking data set write subroutine (radar processing and tracking subsystem)
SDZ	AD message processor (track data processing subsystem)
SE	reserved for Storage Element <u>not</u> systems engineer
SE	SouthEast
SE	Shielding Effectiveness
SE	Storage Element
SE	Support Equipment
SE	System Engineer
SE	System Engineering
SE	Systems Engineer
SEADRM	SEADRoMe
SEB	Source Evaluation Board
SEB	SouthEast Bound (ICAO)
SEB	System Evaluation Board
Sec	Second(s)
Sec	Secondary
sec	section
SEC	SECTOR
SE/CCB	System Engineering/Configuration Control Board
SECMR	SECTOR Manager
SECR	SECTOR Record (adaptation record)
SECRA	SECondary RADar
SecStat	Sector Status list
SE&D	System Engineering and Design
SE&D	System Engineering and Development
SEE	Software Engineering Exercise
SEFD	System Engineering Flow Diagram
SEG	Sector Equipment Group
SEG	Selector Enable Gate
SEG	System Engineering Group
SEI	System Engineering and Integration
SEIC	System Engineering and Integration Contractor
SEL	SElector
SEL	Space Environment Laboratory
SEL	Support Equipment List
SEL	System Engineering Laboratory
SELCAL	SElective CALLing system (ICAO)
SEL CH	SElector CHannel
SELS	SEvere Local Storm
SELY	SouthEasterLY
SEM	SEMantic
SEM	Standard Earth Model
SEMIA	SEMI-Annually
SEMS	System Engineer Management Information System
SEMO	Systems Engineering Management Office
SEMP	Software Engineering Management Plan
SEMP	Specialized Engineering Management Plan
SEMP	System Engineering Management Plan
SEP	SEPtember
SEP	Spherical Error Probable

SEP	System Engineering Process
SEPDR	Software Engineering Preliminary Design Review
SEPH	altitude SEParation parameter (parameter)
SEPM	minimum SEParation (horizontal)
SEPZ	minimum Separation (vertical)
SEQ	SEquence
SER	SERvice
SER	SERvicing (ICAO)
SER	SERviced (ICAO)
SERN	SouthEasterN (weather reports only)
SERR	Software Engineering Requirements Review
SES	Senior Executive Service
SES	Supervisory Electronics Specialist
SESC	Space Environment Service Center
SET	Stack Entry Time
SET	System Embedded Training
SET	Systems Engineering Test
SETA	SET Available message
SETA	Set non-operational Elements Available (monitor message ID)
SETA	System Engineering and Technical Analysis
SE/TD	Systems Engineering/Technical Direction
SETI	Set Inactive (monitor message ID)
SE-TTP	Systems Engineering - Technical Transition Point
SETU	Set non-operational elements Unavailable (monitor message ID)
SETU	SET Unavailable message
SEV	SEVere (used to qualify icing and turbulence reports) (ICAO)
SEVA	System EVALuation
SEWB	System Engineer's WorkBench
sext	sextant
SF	Single Frequency
SF	Standard Form
SFA	flight plan data base read subroutine (disk storage applications subsystem)
SFA	Single Frequency Approach
SFAR	Special Federal Aviation Regulations
SFB	Strip FZ Building subroutine (flight status alerts subsystem)
SFC	flight plan data base write subroutine (disk storage applications subsystem)
SFC	SurFaCe
SFD	bulk flight plan field processing subroutine (disk storage applications subsystem)
SFDCS	Supervisory Flight Data Communications Specialist
SFE	flight plan data set recovery recording maintenance subroutine (disk storage applications subsystem)
SFER	Sector FDEP Eligibility Rules (parameter)
SFERICS	atmospherics

SFG	flight plan buffer management subroutine (disk storage applications subsystem)
SFI	flight plan insertion subroutine (radar processing and tracking subsystem)
SFID	dynamic SIM flight ID
SFK	Soft Function Key
SFL	record reconstruction preprocessing subroutine (radar processing and tracking subsystem)
SFL	Sequence Flashing Lights
SFO	Sector Field Office
SFO	Simulated FlameOut
SFO	Single Frequency Outlet
SFP	Stored Flight Plan
SFR	final-message router subroutine (inquiry processing subsystem)
SFSS	Satellite Field Service Station (NOAA)
SFT	Stored Fixed Times
SFU	Sector Field Unit
SG	conflict alert Group Suppression (message ID)
SG	Snow Grains (weather reports only)
Sgat	Safety gate
SGD	SiGneD
SGFNT	SiGniFicaNT
SGL	SiGnaL
SGP	Single-Gate Processing
SGV	Second Generation VORTAC
SH	SHower(s)
SH	Start Hold (message ID)
SHA	heading angle correction subroutine (route conversion subsystem)
SHA	Sidereal Hour Angle
SHA	System Hazard Analysis
SHF	Super-High Frequency
SHF	table TK/HF manager subroutine (display channel output subsystem)
SHFT	SHiFT (weather reports only)
SHL	tabular list formatting subroutine (display channel output subsystem)
SHLW	SHaLlow
SHM	flight strip printer list formatting subroutine (display channel output subsystem)
SHMOO	operational limits check routine
SHORAN	SHort-RANge navigation
SHORN	SHort-Range Navigation system
SHP	SHaPer
SHP	Standard Holding Procedure
S/I	Saturation/Interference
SI	Sensor Interface
SI	Showalter stability Index
SI	Source Identification
SI	Straight-In approach
SI	System Implementation

SI	System Integration
SIA	Standard Instrument Approach
SIA	Status Information Area
SIAP	Standard Instrument Approach Procedure
SICASP	SSR Improvements and Collision Avoidance System Panel
SICASP	Surveillance radar and Collision Avoidance Systems
SICD	Software Interface Control Document
SICD	System Interface Control Document
SICO	System Integration and CheckOut
SID	Standard Instrument Departure
SID	Static Information Display
SID	System Inventory Directory
SIDOR	Standard Instrument Departure from Optimum Runway
SIDRTE	Standard Instrument Departure Route (adaptation record)
SIERNEV	SIERra NEVada
SIF	Selective Identification Feature
SIF	System Integration Facility
SIG	SIGMET (RWP)
SIG	SIGnature
SIGINT	SIGnals INTelligence
SIGMET	SIGnificant METeorological information
sgwx	SIGnificant Weather (ICAO)
SIIC	Switch monitor/In-service Indicator Control
SIL	auto-handoff inhibit list subroutine (display channel output subsystem)
SIL	Set Interrupt Lockout
SIL	Speech Interference Level
Sim	Simulated
SIM	SIMulation
SIM	SIMulation program (NOSS support program)
SIM	SIMulator
SIM	Software Implementation Methodology
SIMF	SIMulation Functions
SIMMOD	SIMulation MODEL
SIMMOD	SIMulation MODELing
SIMPILOT	SIMulation PILOT
SIMUL	SIMULTaneous
SIMUL	SIMULTaneously (ICAO)
SINBAC	System for Integrated Nuclear Battle Analysis Calculus
SINE	System Integration Engineering
SINE	System Integration of NAS Equipment
SIO	bulk I/O subroutine (disk storage applications subsystem)
SIO	Start Input/Output
SIO	Start I/O (instruction)
SIOP	Start I/O Processor (instruction)
SIOS	Supervisory and Interfacility Outputs Subsystem
SIP	Surveillance Interface Processing
SIP	Surveillance Interface Processor

SIP	System Implementation Plan
SIR	Signal-to-Interface Ratio
SIR	Snow and Ice on Runway
SIREAN	Site REGistration ANALysis program (OS Maintenance support program)
SIREAN	Site REGistration ANalyzer program
SIS	System Interface Specification
SISD	Strategic Information Systems Division
SIT	Site Integration Tests
SIT	Specialist INCO Team
SIT	System Integration Tests
SIT	Systems Integration and Testing
SITE	SITE parameter record table
SITE	SITE tailoring
SITP	System Integration & Test Plan
SITS	Simulation Interface Test Software
SitSDisp	Situation Display
SI-TTP	System Implementation - Technical Transition Point
SIWG	Software Interface Working Group
SIWL	Single Isolated Wheel Load (ICAO)
SJP	Standard Jet Penetration
SK	SKy conditions
SKC	SKy Clear (ICAO)
SKED	SchEDule
SKED	SchEDuled
SL	Schedule Limit
SL	Sea Level
SL	System Load
SLA	Selected Library Acquisition
SLAD	System Loads Analysis & Definition
SLAM	System Language for Alternative Modeling
SLCA	SLant range Correction Altitude (parameter)
SLCA	Slant range Correction, Approximate
SLCT	SeLeCT
SLD	Special Lists Display
SLDI	Sector List Drop Interval (parameter)
SLI	Single-Lamp Indicator
SLIL	Single-Lamp Indicator Logic
SLINE	S-LINE (adaptation record)
SLIR	Single Line Item Requisition
SLM	Site-Level Maintenance
SLM	System Library Manager
SLMM	Simultaneous Middle Marker compass Locator and T/R voice transmission
SLO	SLOW
SLOC	Source Lines of Code
SLOM	Simultaneous Outer Marker compass Locator and T/M
SLP	SLOPe
SLP	Speed Limit Point (ICAO)
SLP	Student Learning Position
SLPM	System-Level Performance Measures
SLR	Service Level Reporter

SLR	SLush on Runway
SLRAP	Standard Low-frequency Range Approach
SLS	Side-Lobe Suppression
SLS	System Level Specification
SLSL	Strobe Line Segment Length (parameter)
SLT	Solid Logic Technology
SLT	SLeeT
SLT	Student Learning Terminal
SLTE	System-Level Test and Evaluation
SLT&E	System-Level Test and Evaluation
SLW	SLow (ICAO)
SM	Schedule Management
SM	Statute Mile(s)
S/M	Supervisory/Maintenance
SM	Switch Module
SM	System Maintenance
SMA	System Maintenance Analyst
SMA	Systems Management American Corporation
SMAC	System Monitoring And Control
SMAI	System MAIntenance and monitoring
SMART	System Measurement and Analysis in Real Time
SMC	Squawk Mode/Code
SMC	Surface Movement Control (ICAO)
SMC	System Monitor Console
SMCO	preferred or supplementary short run length threshold (parameter)
SMDP	Software Manager's Development Portfolio
SME	Systems Maintenance Engineer
SMF	Special-Mode Flag
SMF	Surface Measurements Facility
SMF	System Management Facility
SMF	System Measurement Facility
SMG	SSCC-1 Monitoring Group
SMG	Systems Monitoring Group
SMI	System Measurement Instrument
SMIS	Safety Management Information System
SMK	SMoKe
SML	Scanner Message Line
SML	SMaLL
SMM	SMMC (case file designator)
SMMC	Set SMMC status (monitor message ID)
SMMC	SMMC record (adaptation record)
SMMC	Systems Maintenance Monitoring Console
SMMC	System Maintenance Monitor Console
SMMM	System Monitor and Mode Management
SMN	System Minute subroutine (supervisory subsystem)
SMO	Senior Management Official
SMOD	Supplemental MODification messages
SMP	Mission Plan processing subroutine (flight status alerts subsystem)
SMP	Supervisory/Maintenance Position
SMP	Switch Module Processor

SMP	System Modification Program
SMPS	Sector Maintenance Processing System
SMPS	Sector Maintenance Processor Subsystem
SMPU	Switching Module Processor Unit
SMR	Source, Maintenance, and Recovery
SMR	Surface Movement Radar (ICAO)
SMR	Statute Mile Radius
SMRY	SuMmaRY
SMS	Standard Modular System
SMS	Switching Management System
SMS	System Maintenance Service
SMT	SchMiTT trigger
SMT	SubMiT
SMTH	SMooTH
SMU	Space Management Utilities
SMWHT	SoMeWHaT
SN	Signal-to-Noise ratio
S/N	Signal-to-Noise ratio
SN	SNow (ICAO)
SN	Statement Number
SN	Strategic Navigation
SN	Systems Navigation
SN	system Strategic Navigation (military)
SNA	System Network Architecture
SNAP	SubNet Access Protocol
SNBK	SNowBanK
SND	SaND
SND CF	SubNet Dependent Convergence Function
SND CP	SubNet Dependent Convergence Protocol
SNFLK	SNowFLaKe
SNGL	SiNGLe
SNI	SNA Network Interconnect
SNI	System Network Interconnection
SNICP	SubNet Independent Convergence Protocol
SNOINCR	SNOW depth INCRease in past hour
SNOWTAM	a special series NOTAM indicating the presence of hazardous snow or ice conditions (ICAO)
SNR	Signal-to-Noise Ratio
SNRM	Set Normal Response Mode
SNRS	SuNRiSe
SNSH	SNOW SHowers (ICAO)
SNST	SuNSeT
SNW	SNOW
SNWFL	SNOWFall
SO	South
SO	StartOver
SO	Support Organization
SOA	posting and flight status alerts startup/startover subroutine (flight status alerts subsystem)
SOB	Souls on Board
SOBJ	Supplemental NAS OBject decks



SOC	startup/startover processing subroutine (radar processing and tracking subsystem)
SOD	DCO startup/startover subroutine (display channel output subsystem)
SOD	Start Of Data
SOD	Start Of Display
SODAR	Simultaneous Opposite Direction Aerial Refueling
SOF	Start Of File
SOH	Start Of Header
SOHAR	Sohar, Inc. (a support contractor)
SOL	Startup/Startover subroutine (supervisory subsystem)
SOLAR	SOLAR azimuth orientation program (OS maintenance support program)
SOM	See Our Message
SOM	Software Operations Manual
SOM	Start Of Message
SOMI	SIM Override Mode Indicator (parameter)
SOP	Standard Operating Practice
SOP	Standard Operating Procedure
SORAP	Standard Omni-Range Approach
SORE	Startover Recovery
SOS	Sector Operations Support (APM-160 support contract)
SOS	System On-Site
SOS	System Operational Specification
SOS	Systems Operations Specialist
SOSID	SSRVT Operational Suitability Issues Database
SOST	Site-Operational System Tests
SOST	System On-Site Test
SOT	Specialist Operations Terminal
SOU	restart utility subroutine (real-time quality control subsystem)
SOW	Statement Of Work
S.P.	Singing Point
SP	Snow Pellets
SP	SPace
SP	SPace of header
SP	SPecial
SP	Standard holding Pattern
SP	Standard Procedure
SP	Station Pressure
SP	Stereo flight Plan (message ID)
SP	Surveillance Processor
SP	System Package
SP	System Parameter
SP	System Product
SP	System Program
SP	System Protect
SPADE	air sovereignty test (U.S.)
SPAN	Stored Program AlphaNumerics
SPAR	Storage Protect Address Register

SPB	SeaPlane Base
SPB	Site Program Bulletin
SPB	Storage Protect Buffer
SPB	Supplementary Processing Board
SPC	SPeCification (case file designator)
SPC	Surveillance Processing and Correlation
SPCEM	Software Parametric Cost Estimating Model
SPCI	Set Program Controlled Interrupt
SPCLY	eSPeCially
SPCR	Software Problem/Change Report
SPD	SEI Program Directive
SPD	SPeed
SPDIP	Site Preparation Design Information Package
SPDT	Single-Pole Double-Throw
SPEC	SPECIAL
SPEC	SPECIAList support
SPEC	SPECification
SPECI	aviation selected special weather reports (in aeronautical meteorological code) (ICAO)
SPECIAL	special meteorological report (in abbreviated plain language) (ICAO)
SPF	flight plan position subroutine (radar processing and tracking subsystem)
SPF	Strategic Predictions Function
SPF	Structured Programming Facility
SPF	System Productivity Facility
SPFP	Single-Precision Floating Point
SPFPA	Scheduled Prefiled Flight Plan Assembly
SPG	Simplex Patching Group
SPG	System Planning Group
SPG	Support Processing Group
SPH	Strip Printing past Hold fix processor subroutine (flight status alerts subsystem)
SPI	Special Position Identification
SPI	Special Position Identification subroutine (flight status alerts subsystem)
SPI	Special Position Identifier
SPI	Special Pulse Identification
SPIFR	Single-Pilot IFR
SPKL	SPrinKLe
SPL	Sound Pressure Level
SPL	Spare Parts List
SPL	SPeCial
SPL	SupPLementary flight plan message (ICAO)
SPL	Support Program Log
SPLAN	Sector PLAN (adaptation record)
SPLN	Sector configuration PLaNs record
SPLNS	South PLaiNS
SPM	Software Performance Manager
SPM	Software Programmer's Manual
SPM	Source Program Maintenance
SPM	System Performance Model

SPMA	minimum separation parameter (when track pair are from coarse geographic filter) (parameter)
SPMAR	System Performance Model Analysis Report
SPMB	minimum separation (when track pair are from conflict pairs table) (parameter)
SPML	Supplemental Program Monitoring List
SPML	Supplemental Project Monitoring List
SPO	System's Performance Officer
SPO	System Performance Operator
SPO	System Program Office
SPOOL	Simultaneous Peripheral Operations On-Line
SPO-MD	Special Project Office - Management Directive
SPOT	SPOT winds (ICAO)
SPP	Start Processing Point
SPP	Strip Print Processing subroutine (flight status alerts subsystem)
SPP	System Package Program
SPP	System Program Plan
SPPA	minimum projected separation (when track pair are from coarse geographic filter) (parameter)
SPPB	minimum projected separation (when track pair are from conflict pairs table) (parameter)
SPPC	projected lateral separation, start of altitude conflict (parameter)
SPPD	projected lateral separation, end of altitude conflict (parameter)
SPR	Site Parameter Record
SPR	Software Planning Review
SPR	Software Problem Report
SPRA	Separation Parameter (when track pair are from coarse geographic filter) (parameter)
SPRB	Separation Parameter (when track pair are from conflict pairs table) (parameter)
SPRC	Software Problem Change Request
SPRD	SPReaD
SPRL	SPiRaL
SPRT	SupPoRT
SPS	Software Product Specification
SPS	Standard Positioning Service
SPS	Systems Performance Specialist
SPS	System Performance Staff
SPSB	Store Preferential Storage Base address (instruction)
SPSS	Statistical Package for Social Sciences
SPT	Specialist Pre-INCO Team
SPT	Symbolic Program Tape
SPTD	Supplementary Provisioning Technical Documentation
SPX	force posting subroutine (flight status alerts subsystem)
SQ	Status reQuest
SQA	Software Quality Analysis
SQA	Software Quality Assurance

SQAL	SQuAlL
SQAP	Software Quality Assurance Plan
SQDN	SQuaDroN
SQEP	Software Quality Evaluation Plan
SQL	Structured Query Language (IBM)
SQL	System Query Language
SQL/DS	Structured Query Language/Data System
SQLN	SQuall LiNe
SQO	IOT priority 3 format subroutine (inquiry processing subsystem)
SQPP	Software Quality Program Plan
SQRT	SQuare RooT
SQZSO	sysout tape compress (NOSS utility program)
SR	Select Register
SR	Service Request
SR	Shift Register
SR	Standard Range approach
SR	Status Request
SR	Strip Request (message ID)
SR	SunRise
SRA	fix or post determination subroutine (track data processing subsystem)
SRA	Surveillance Radar Approach (ICAO)
SRA	System Requirements Analysis
SRAP	Semi-conductor Reliability Assessment Program
SRAP	Sensor Receiver And Processor
SRAP	Surveillance Receiver And Processor
SRB	Specification Review Board
S/RC	Send/Receive Center
SRC	SSCC/RDCC Control
SRC	surveillance field 02 processor subroutine (track data processing subsystem)
SRCA	collimation frequency interval (parameter)
SRCH	SeaRCH
SRD	Software Requirements Document
SRD	System Requirements Document
SRDE	Search and Rescue Data Extraction
SRDL	Status Register and Display Logic
SRDS	System Research and Development Service (FAA)
SRE	Slant Range Error
SRE	Surveillance Radar Element of precision approach radar system (ICAO)
SRG	Short RanGe (ICAO)
SRI	Shop-Repairable Item
SRI	Summary Read-In message (SMMC message)
SRL	Scanner Read Line
SRL	Specification Requirements List
SRL	System Reference Library
SRL	System Requirements List
SRM	Short-Range Missile
SRM	Smooth Radar Mosaic
SRM	System Resources Manager

SRM	track-ball processor subroutine (track data processing subsystem)
SRND	SurROUND
SRP	Seat Reference Point
SRPN	Special Requisition Priority Number
SRR	FR/WR/WX message subroutine (inquiry processing subsystem)
SRR	Search and Rescue Region (ICAO)
SRR	Service Request Response
SR/R	Service Request/Response
SRR	Short-Range Radar
SRR	System Readiness Review
SRR	System Requirements Review
SRRR	Site Readiness Review Report
SRS	Software Requirements Specification
SRS	System Requirements Specification
SRS	System Requirements Statement
SRSA	Systems, Requirements, and Services Associates, Inc. (a support contractor)
SRSR	Secondary Review Support Requests
SRT	response-message router subroutine (inquiry processing subsystem)
SRT	Section Reference Table
SRT	Site Readiness Testing
SRT	System Requirements Team
SRT	Systems Requirement Team
SRTL	System Recovery Time Limit (age of recovery data) (parameter)
SRTQC	Search RTQC
SRTVT	System Requirements Validation system
SRU	Shop-Repairable Unit
SRU	Small Replaceable Unit
SRVT	System Requirements Validation Team
SRXA	maximum X-coordinate of simulation rectangle (parameter)
SRXI	minimum X-coordinate of simulation rectangle (parameter)
SRY	SecondaRY (ICAO)
SRYA	maximum Y-coordinate of simulation rectangle (parameter)
SRYI	minimum Y-coordinate of simulation rectangle (parameter)
SS	Sector Suite
S/S	Sector Suite
SS	Selective Signaling
SS	Sensitive Sector
SS	Single Symbol
SS	Solid State
S/S	Start/Stop
SS	Strobe message display (table)
SS	SunSet
SS	Supervisory Subsystem

SS	Sync Shaper
SS	System Shakedown
SS	System Specification
SS-1	Selective direct-access interphone
SSA	Small Search Area
SSA	Software Support Agency
SSA	Source Selection Authority
SSA	Step ScAn circuit
SSA	Structured System Analysis
SSALF	Simplified Short Approach Lighting system with sequenced Flashers
SSALR	Simplified Short Approach Lighting system with Runway alignment lights
SSALS	Simplified Short-Approach Lighting System
SSALSR	SSALS with RAIL
SSB	Single SideBand
SSC	Station Select Code
SSC	Step Scan Control
SSC	System Status and Control
SSC	System Status Console
SSC	System Support Computer
SSCC	System Support Computer Complex (at FAATC)
SSD	System ShutDown (NADIN message ID)
SSD	System Status Data display
SSDD	System/Segment Design Document
SSE	Site System Engineer
SSE	System and Software Engineering
SSEB	Source Selection Evaluation Board
SSERN	South-SouthEasteRN
SSEWD	South-SouthEastWarD
SSF	System Support Facility (FAATC)
SSG	System Safety Group
SSG	Systems Steering Group
SSHA	SubSystem Hazard Analysis report
SSI	Standard Serial Interface
SSI	SubSystem Interface
SSK	Set Storage Key
SSL	Software Support Library
SSL	System Support Laboratory
SSM	Set System Mask (instruction)
SSM	Solid-State Memory
SSMMFCPR	Sector Suite Man/Machine Functional Capabilities and Performance Requirements
SSMS	Startup/Startover Management Subsystem
SSMV	Start Stop control MultiVibrator
SSNO	request NO SIDs or STARS
SSO	Self-Sustained Outlet
SSO	Source Selection Officer
SSOIS/R	Sector Suite Operational Information Storage/Retrieval system
SSP	IOT priority 1 format subroutine (inquiry processing subsystem)

SSP	SIM Status Program (NOSS support program)
SSP	Simulation Support Package
SSP	Site System Performance
SSP	System Safety Program
SSP	System Security Plan
SSP	System Status Panel
SSP	System Support Program
SS/PC	Sector Suite/Position Console
SSPI	Stereo Strip Printing Interval (parameter)
SSPM	Software Standards and Procedures Manual
SSPP	System Safety Program Plan
SSR	AR/AS/GO/TD/UR message subroutine (inquiry processing subsystem)
SSR	Search and Rescue message
SSR	Secondary Surveillance Radar
SSR	Software Specification Review
SSRVT	Sector Suite Requirements Validation Team
SSRVT	System Software Requirements Validation Team
SSS	Sector Suite Subsystem
SSS	Source Selection Sensitive
SSS	Supplemental Software Support
SSS	System/Segment Specification
SSSA	Sector Suite Subsystem Availability
SST	Site Simulation Testing
SST	SuperSonic Transport
SST	Surveillance System Testing
SST	System Shakedown Team
SST	System Supervisory Terminal
SST	System Supported Training
SST	System Test (NADIN message ID)
SSTO	Set Surveillance Tie-Off (monitor message ID)
SS/TPC	Sector Suite/Tower Position Console
SSU	Storage Switch Unit
SSU	System StartUp (NADIN message ID)
SSV	Standard Service Volume
SSW	Shelf SWitch
SSW	South SouthWest (ICAO)
SSWG	System Safety Working Group
SSWI	System Saturation Warning Interval (parameter)
SSWRN	South-SouthWestERN
SSWWD	South-SouthWestWard
SSX/VSE	Small System eXecutive/Virtual Storage Extended
ST	Scan Time
ST	Silent Tactile
ST	Simulation Training (message ID)
ST	Start Time
ST	STatus (ICAO)
ST	STratus
STA	STraight in Approach
STADMR	STation ADMinistrator
STAGN	STAGNation
STAIRS	STorage And Information Retrieval System

STALO	STAbLe Local Oscillator
STAR	Standard instrument ARrival (ICAO)
STAR	Standard Terminal Arrival Route
STARE	Single Terminal And Runway Experimentation
STARS	Surveillance and Target Attack Radar System
START	Scheduled Transition and Acquisition of Relevant Traffic
STARTE	Standard Terminal Arrival RouTE (adaptation record)
STARTOVER	Startover initialization routines record (adaptation record)
STARTUP	Startup initialization routines record (adaptation record)
STAT	STATus
STB	chained-table management subroutine (route conversion subsystem)
STB	Site Technical Bulletin
STB	STate Boundaries (RWP)
STBL	STaBLe
STBY	STand BY
STC	Sensitivity Time Constant
STC	Sensitivity Time Control
STC	Servicing Test Center
STC	Short-Time Constant
STCG	Software Technical Control Group
STCK	STore CLoCK (instruction)
STCLB	STart CLimB
STD	Search Target Detection
STD	Software Test Description document
STD	STandard
STD	Subcontract Technical Directive
STDB	Supplemental Temporary Dynamic Bufferable program library
STDG	System Test Document Generation (NOSS support program)
STDST	STart DeScenT
STDY	STeaDY
ST&E	Shakedown Test and Evaluation
STE	Signaling Terminal Equipment
ST&E	Site Test and Evaluation
STE	Special Test Equipment
STE	Special purpose Test Equipment
S&TE	Support and Test Equipment
STEP	Service Test and Evaluation Program
STEREO	Stereo record (adaptation record)
STEREOG	Stereographic plan information record (adaptation record)
STF	Short-Term Forecast
STF	Software Test Folder
STF	STaFfing
STF	STratiForm (ICAO)
STG	Space Time Generator



STI	Site Turn-on Indicator
STI	Standard Terminal Interface
STI	Stanford Telecommunications, Inc. (a support contractor)
STI	supplementary Site Turn-on Indicator
STIA	Supplementary Turn-on Indicator - Adapted
STID	Supplementary Turn-on Indicator - Dynamic
STIM	System TIME
STIRF	Summary Time Interval Record (adaptation record)
STIWG	System Test and Integration Working Group
STLD	Software Top-Level Design
STLDD	Software Top-Level Design Document
STLDR	Software Top-Level Design Review
STLT	SaTeLliTe
STMGR	STation ManaGeR
STN	Software Technical Note
STN	STation
STNR	STationaRY (ICAO)
STNRY	STationaRY
STO	surveillance tie-off subroutine (display channel outputs subsystem)
STOL	Short Take-Off and Landing
STOP	Scheduled Termination of Operational Program
STOP	Society of Testers of Operational Performance
STORM	STormscale Operational and Research Meteorology
STP	Software Test Plan
STP	Student Training Position
STP	System Test Procedures
STPR	Software Test Procedures
STR	Sector Tracking Rectangle
STR	Software Test Report
STR	Strength of Target Report
STR	System Trouble Report
STRO	STereo ROute
STS	Satellite Test System
STS	Saturday-To-Sunday subroutine (supervisory subsystem)
STS	Space Transportation System
STS	STatuS (ICAO)
STS	System Test Support
STSE	Special Test and Support Equipment
STSI	Suppress Track Symbolology Interval (parameter)
STT	Student Training Terminal
STU	System Timing Unit
STV II	Secured Telecommunications Voice network, model II
STVN	request STartoVer, New data base (SE to CDC message)
STVR	operational system STartoVeR (monitor message ID)
STVS	System Test Verification Support
STWL	STopWay Light(s) (ICAO)
STWY	STopWay
STX	Start of Text

SU	Selectable Unit
SU	Simplex Unit
SU	StartUp
SUA	Special-Use Airspace
SUADE	air sovereignty test (Canada)
SUB	SUBstitute
SUBBUF	SUBroutine dynamic BUffering record (adaptation record)
SUBFIX	SUBject to correction
SUBFX	SUBstitute FiX (adaptation record)
SUBJ	SUBJect to (ICAO)
subpar	subparagraph
subsec	subsection
subsys	subsystem
SUF	SUFFicient
SUG	SUGgest
SUM	Software User's Manual
SUM	SUMmary
SUN	Sun Microsystems, Inc.
SUN	SUNday
SUP	SUPervisor
SUP	SUPply
SUP	SUPport central processor
SUP	SUPport control processor
SUPCHG	SUPERCHArGe
SUPDISP	Display Channel Support Software
SUPP	SUPPort software
SUPP	SUPPress display
SUPPL	SUPPLEMENT
SUPPORT	SUPPORT software
SUPPR	SUPPress
SUPPS	regional SUPplementary Procedures (ICAO)
SUPR	SUPERior
SUPSD	SUPERSeDe
SUPT	Specialized Undergraduate Pilot Training
SUPT	SUPERintendent
SUPVR	SUPERVisoR
SurfObs	Surface Observation
SURPIC	SURface PICTure
SURV	SURVeillance processing
Surveil.	Surveillance
SURVSITES	SURVeillance SITES
SU/SO	StartUp/StartOver
SUSP	SUSPend
SUT	System Under Test
SUTI	CDC StartUp Time Interval (parameter)
SUV	FZ Validation subroutine (flight status alerts subsystem)
SV	Space Vehicle
SVA	Shared Virtual Area
SVC	SerViCe
SVC	SerViCe message (ICAO)

SVC	SuperVisor Call (instruction)
SVCBL	SerViCeaBLe (ICAO)
SVDM	SuperVisory Data Maintenance
SVFR	Special Visual Flight Rules
SVR	Slant Visual Range
SVR	System Validation Review
SVRB	SuperVisor Request Block
SVS	Single Virtual Storage
SVSS	Small Voice Switching System
SW	Sector Workload
SW	SnoW shower (weather reports only)
SW	SoftWare
S/W	SoftWare
SW	SouthWest
SW	Substitute fix (table)
SW	Supplementary aviation Weather report
SWA	Sector Workload Analysis
SWAO	Senior Weapons Assignment Officer
SWAP	Severe Weather Avoidance Plan
SWAP	Severe Weather Avoidance Procedure
SWAP	Severe Weather Avoidance Program
SWAP	System Worthiness Analysis Program
SWB	Scheduled Weather Broadcast
SWB	SouthWest Bound (ICAO)
SWD	Sector Workload Display
SWEAT	Severe WEather Threat
SWG	SeWaGe system
SWG	SwitchGear (case file designator)
SWIT	SoftWare Integration Test
SWLG	SWelling
SWLY	SouthWesterLY (weather reports only)
SWMG	SoftWare Monitoring Group
SWRN	SouthWesterN (weather reports only)
SWVR	SWitchoVer message
SWY	StopWaY (ICAO)
SX	SimpleX
SX	Stability index
SX	Standby engine generators
SXA	error or reject message formatting subroutine (inquiry processing subsystem)
SXN	Section
SY	parameter (table)
SYC	Servo speed Control
SYD	release Subject to Your Discretion
SYN	SYNchronous
SYN	SYNTactic
SYNOP	SYNOptic
SYNS	SYNOpsiS
SYS	See Your Service
SYS	SYStem
SYS	SYStem General (case file designator)
SYSGEN	SYStem GENeration

SySR  
SySR  
SZQT

Successful System spec Review  
System Spec Review  
SiZing system Qualification Test

T	Test
T	Temperature (ICAO)
T	Terminal
T	Thunderstorm (weather reports only)
T	Tip
T	Tower position
T	Trace (weather reports only)
T	Trainee
T	Training
T	Tropical (air mass)
TA	Accept Transfer (message ID)
TA	Air Temperature
TA	Technical Advisor
TA	Temperature
TA	Terminal Arrival
T&A	Time and Attendance
TA	Time to level off
TA	Total Aboard
TA	Track Accept (message ID)
TA	Transition Altitude (ICAO)
TA	Transmission Accepted
TA	Trend Analysis
TA	True Altitude
TAA	Terminal Advanced Automation
TAA	Tower Advanced Automation
TAAF	Test Analyze And Fix
TAARS	Target Analyzer for Adapting Radar Sort boxes (OS maintenance support program)
TAARS	Track Analyzer for Adapting Radar Sort boxes (OS maintenance support program)
TAAS	Terminal Advanced Automation System
TAB	TABular characters order
TABC	Tentative Assigned Beacon Code
TABG	Threshold-Alpha-Beta-Gamma
TABIT	TABular Index Table
TABS	Telephone Aviation Briefing System
TAC	Tactical Air Command (USAF)
TAC	Technical Activities Committee
TAC	Terminal Area Chart
TAC	Test Address Circuit
TACAN	Tactical Air Navigation facility (UHF)
TACAN	Tactical Air Navigation system
TACLO	Tactical Air Command Liaison Officer
TACR	Tactical Air navigation - Collocated with VOR
TACS	Tactical Air Control System (military)
TAD	ATC Tower, Approach, and Departure control facility
TAF	Aerodrome Forecast (ICAO)
TAFS	Testbed for Automated Flight Services
TAG	Technical Advisory Group
TAG	Training Analysis Guidelines
TAGS	Tower Automated Ground Surveillance system

TAI	Technology Application, Incorporated (a support contractor)
TAI	Traditionally Administered Instruction
TAIL	Tailwind (ICAO)
TAL	Transaction Access Language (TANDEM Non-Stop II Computer)
TAL	Transaction Application Language
TALL	Transition/Approach/Local/Landing
TAM	Technical Advisors/Monitor Group
TAM	Test And Monitor
TAM	Test And Monitor Adapter
TAMP	Tape clock AMPLifier
TAMPA	True Altitude Minus Pressure Altitude
TAND	TANDem
TANDA	Time AND Attendance report
TAO	TACAN Only
TAO	Time and Altitude Over
TAP	Technical Appraisal Program
TAP	Terminal Alert Procedure
TAP	Top Address Pointer
TAPEDIAG	COTS CC TAPE drive DIAGnostics
TAPEDRIVE	CP TAPE DRIVE
Tape Drive	CC Tape Drive
TAPER	Temporary Appointment Pending Establishment of a Register
TAR	Terminal Area Research
TAR	Terminal area Surveillance Radar (ICAO)
TAR	Terrain Avoidance Radar
TAR	Timing Analysis Record
TAR	Transportation Acquisition Regulation
TARE	Timing Analysis Record Error
TARND	Turn ARound
TARP	Timing Analysis Reduction Program (NOSS DR&A program)
TARS	Terminal Automated Radar Service
TAS	True Air Speed
TASA	Task And Skills Analysis
TASC	Terminal Area Sequencing and Control system
TASI	Tower/Approach control arrival Strip print Interval (parameter)
TASR	Terminal Area Surveillance Radar
TAT	True Air Temperature
TATF	Terminal Automation Test Facility
TAU	Test Access Unit
TAWOG	Travel Arrangements WithOut Government expense
TAWP	Tracking And Weather Processing
TAX	TAXi (ICAO)
TAX	Taxiing (ICAO)
TB	Terminal Board
TB	Terminate Beacon (message ID)
TB	True Bearing
TB	TurBulence

TBA	To Be Announced
TBC	TrackBall Capture
TBCD	TrackBall CoordInate table
TBD	To Be Determined
TBD	To Be Developed
TBI	To Be Identified
TBJT	TurBoJeT
TBLC	TrackBall Lateral Check (parameter)
TBRL	Transmit Buffer Register Load (UART)
TBS	To Be Scheduled
TBS	To Be Specified
TBS	To Be Supplied
TBSA	Track Ball Search Area (parameter)
TBSD	Track Ball Search for Display channel outputs (parameter)
TC	Technical Center (FAATC)
TC	Test Card (CDC)
TC	Test Coordinator
TC	Time Check
TC	Track Class indicator
TC	Traffic Count adjustment (message ID)
TC	Tropical Cyclone (ICAO)
TC	True Course
TCA	Terminal Control Area
TCAM	TeleCommunications Access Method
TCAP	Technical Contract Administration Plan
TCAS	Threat Collision Avoidance System
TCAS	Traffic alert and Collision Avoidance System
TCBT	Tracking Certification Beacon Tolerance (parameter)
TCC	Technical Computer Center
TCC	Track Correlation Code
TCCC	Tower Cab Computer Complex
TCCC	Tower Control Computer Complex
TCD	Tech Center Demo
TCD	Terminal Common Digitizer
TCDD	Tower Cab Digital Display
TCE	Tone Control Equipment
TCF	Terminal Control Facility
TCF	Tower Control Facility
TCH	Test CHannel
TCH	Threshold Crossing Height
TCHD	Threshold Crossing Height Downwind
TCHU	Threshold Crossing Height Upwind
TCI	Target Completion Indicator
TCID	ARTS III TraCK IDentifier
TCID	Terminal Computer ID
TCKG	Transmit Clock enable Generator
TCL	Track Chain List
TCL	Transient Control Level
TCLIS	FAA Tech Center Logistics Information System
TCLT	Tentative Calculated Landing Time

TCM	Thermal Conduction Module
TCMP	Technical Contract Management Plan
TCMP	Technical Contractor Management Plan
TCN	TeleCommunications Network
TCNT	Turning Track Counter
TCNTL	TransCoNtinenTaL
TCOM	Terminal COMMunications service
TCONV	surface Temperature for CONvection
TCP	Terminal Configuration Processor
TCP	Transmission Control Protocol
TCPT	Tracking Certification Primary Tolerance (parameter)
TCS	TCSS (case file designator)
TCS	Terminal Communications System
TCS	Tower Communications Switch
TCS	Tower Communications System
TCS-ACF	Telecommunications Control System - ACF
TCSS	Terminal Communication Switching System
TCSS	Tower Communication Switching System
TCTO	Time Compliance Technical Order
TCTR	30 msec delay CounTeR
TCU	Tape Control Unit
TCU	Terminal Control Unit
TCU	Threshold Control Unit
TCU	Towering CUMulus (ICAO)
TCV	Terminal Configured Vehicle
TCV	Terminal Configured Vehicle
TD	Tape Drive
TD	TCCC Display monitor
TD	Technical Directive
TD	Technical Director
TD	Terminal Departure
TD	Test Device (message ID)
TD	Test Directive
TD	Time Difference
TD	Touch Down
TD	Tracking Data
TD	Transmission Discarded
TD	Transmission Distributor
TDA	ToDAy
TDAS	Tracking and Data Acquisition System
TDAS	Traffic Data Analysis System
TDB	Table Data Build
TBD	To Be Determined
TDBF	Temporary Bufferable program Library
TDC	Tape Direction Control
TDC	Tower Display Controller
TD&D	Technical Data and Documentation
TDDS	Terminal Data Display System
TDEL	Time DELay
TDG	Target Detection Group
TDI	Test Driver Injector



TDIC	Test Documentation Identification Codes
TDL	Task Description Language
TDM	Time Division Multiplex
TDM	Tower Display Monitor
TDO	Tornado (ICAO)
TDP	Technical Data Package
TDP	Technical Development Plan
TDP	Track Data Processing subsystem
TDR	Terminal Doppler Radar
TDRC	DARC Test message interval (parameter)
TDRP	Tower Display Recording and Playback
TDRS	Tracking and Data Relay Satellite
TDRSS	Tracking and Data Relay Satellite System
TDSI	approach control Departure Strip Interval (parameter)
TDSI	Terminal radar control Departure Strip Interval (parameter)
TDSS	Time Difference Survey System
TDWR	Terminal Doppler Weather Radar
TDY	Temporary Duty
TDZ	TouchDown Zone (ICAO)
TDZ	Touch Down Zone lights
TDZE	Touch Down Zone Elevation
TDZL	Touch Down Zone Lights
TDZL	Touch Down Zone Light system
T&E	Test and Evaluation
TE	Trailing Edge
TE	Transmission Equipment
TEC	Tower En route Control
TEC	Test Equipment Console
TECA	Tower En route Control Area
TECH	TECHnician
TECO	Text Editor and CORrector
TECR	TECHnical Reason (ICAO)
TED	Touch Entry Device
TEG	Test and Evaluation Group
TEI	Text Element Indicator
TEK	TEKtronix, Inc.
TEL	TELEcommunications
TEL	TELEphone (ICAO)
TEL	Training Equipment List
TELAU	TELAUtophraph
TELCO	TELEphone COmpany
TELCON	TELEphone CONference
TELEX	TELEphone EXchange
TELMS	TELEcommunication Management System
TELR	TELEgraph REply
TEL-TWEB	TELEphone (access to) Transcribed WEather Broadcast
TEM	Task Element Module (VSCS)
TEMG	Test and Evaluation Monitoring Group
temp	temperature

TEMP	Test and Evaluation Master Plan
TEMPO	TEMPorary (ICAO)
TEMPO	TEMPorarily (ICAO)
TEND	TrEND (ICAO)
TEND	TENDing to (ICAO)
TEP	Technical Evaluation Plan
TEP	Tower Environment Processing
TERCOM	TERRain CONtour Matching
TERM	TERMinal record
TERMFACIL	TERMinal FACILities
TERPS	TERMinal instrument Procedures
TES	Task Element Statements
TES	Technical Employee Suggestion
TESTR	automated TEST equipment (including software and firmware)
TET	Technical Evaluation Team
TF	Terminal Forecast
TF	Terrain Following (military)
TFAST	Terminal Facility for Automation and Surveillance Testing
TFC	TraFFic
TFDD	Traffic management Flight Data Display
TFF	Time to First Fix
TFHT	Track Flight Heading Tolerance (parameter)
TFM	Test Functional Module
TFPD	Track Fix Position Difference (parameter)
TFR	Terrain Following Radar
TFRCD	TraFFic ReCeived
TFIX	Terminal FIX
TFM	Test Function Module
TFUI	Traffic Flow control display Interval
TFUI	Traffic Flow Update Interval
TFZ	TraFFic Zone
TG	Transient Generator
TGF	Target Generator Facility (formerly ASF - Advanced Simulation Facility)
TGL	Touch and Go Landing
TGS	Taxiing Guidance System (ICAO)
tgt	target
TGW	Tower GateWay
TH	Tracking data, part II (table)
TH	True Heading
THD	THunderhead
THDR	THunDeR
THK	THick
THN	THin
THR	THreshold
THRFTR	THeReaFTeR
THRU	THRoUgh
THRUT	THRoughoUT
THSD	THouSanD
THTNN	THreaTeN

THU	THURsday
THz	TeraHertz
TI	Initiate Transfer (message ID)
TI	Texas Instruments
TI	Track Initiate
T&I	Training and Integrated logistic support
TI	Trunk Interface
TIA	Tower Interface Adapter
TIC	Test Integration command and control Complex
TIC	Trunk Interface Card
TIC	Trunk Interface Circuit
TICC	Test Integration and Control Complex
TICC	Test Integration Control Center
TID	Target ID
TID	Technician-In-Depth
TID	Touch Interface Device
TIDS	Terminal Information Display System
TIF	The Information Facility
TIG	Telecommunications Interface Group
TIL	unTIL
TIM	coordination fix TIME
TIM	Technical Interchange Meeting
TIM	TIME
TIME	set TIME of day (monitor message ID)
TIME	Time (hours, minutes, seconds) (FDE tower data)
TIMESRC	AAS TIME SouRce
TINOP	Transponder INOperative
TIO	Test Input/Output
TIP	unTil Past (place)
TIPP	Test Input Preparation Program
TIPS	Terminal Information Processing System
TIR	Transition Issue Report
TIRP	Transfer Initial Retransmission Parameter (parameter)
TIU	Test Interface Unit
TIU	Trunk Interface Unit
TIWG	Terminal Implementation Working Group
TIWG	Tower Implementation Working Group
TJE	TraJectory Estimator
TK	Track (current)
TK	TrackIng data, part I (table)
TK	Transmit Keyer
TKA	Track Angle
TKE	Track Angle Error
TKNO	Track Number
TKOF	TaKeOff
TL	Target Leading edge
TL(s)	Tool(s)
T-LABS	Terminal - Los Angeles Basin project
TLB	Translation Lookaside Buffer
TLCL	Telecommunications Line Control
TLCSC	Top-Level Computer Software Component

TLD	Top-Level Design
TLDD	Top-Level Design Document
TLGC	Tentative Last Code
TLINE	Transition LINE (adaptation record)
TLP	Transmission Level Point
TLRNC	ToLeRaNce
TLS	Thesaurus and Linguistic integrated System
TLS	Top-Level Subsystem
TLTP	TeLeTyPe
TLTP	Too Long To Print
TLWD	TaiLWinD
TM	FTM communication (table)
TM	Task Manager
TM	Technical Manual
TM	Technical Monitor
TM	Temporary amendment, bulk flight plan (message ID)
TM	Time (PIREP only)
TM	Traffic Management
T/M	Traffic Management
TM	Transmit Message
TMA	Traffic Management Advisory
TMA	TerMinal control area (ICAO)
TMC	Traffic Management Coordinator
TMC	Track Mode C altitude
TMC	Traffic Management Center
TMC	Traffic Management Coordinator (formerly Flow Controller)
TMCC	Traffic Management Computer Center
TMCC	Traffic Management Computer Complex
TMCIC	Traffic Management Coordinator-In-Charge
TMD	Track Merit Designator
TMF	Technical Management Facility
TMF	Traffic Management Facility
TMF	Transactional Monitoring Facility
TMG	Technical Monitoring Group
TMI	Track Mode Indicator
TMIMG	Technical Management and Interface Monitoring Group
TMIS	Technical Management Information System
TML	Technical Management Lead
TML	Television Microwave Link
TMLI	Television Microwave Link Indicator
TMLR	Television Microwave Link Repeater
TMLT	Television Microwave Link Terminal
TMLT	Television Microwave Link Transmitter
TMMP	Test Message Monitor Printout
TMO	Test Management Organization
TMO	Traffic Management Officer
TMP	Traffic Management Processor
TMPRY	TeMPoRarY
TMQT	TiMing system Qualification Test
TMR	Triple-Modular Redundant

TMS	Telecommunication Management Systems
TMS	Track Maneuver Status
TMS	Traffic Management Specialist
TMS	Traffic Management System
TMS	Transmission Measuring Set
TMSC	Time Multiplexed Switch Control
TMSCC	Traffic Management System Computer Center
TMSD	Traffic Management Situation Display
TMSU	Time Multiplexed Switching Unit
TMT	Technical Monitoring Team
TMT	Test Management Team
TMTNO	TransMITting capability out of service
TMU	Traffic Management Unit
TMVS	Traffic Management Voice Switch
TMVS	Traffic Management Voice Switching
TMW	ToMorrow
TN	Track Number
TN	True North
TNA	Thermal Neutron Activation
TNA	Turn Altitude
TNAD	TTY/NADIN interface indicator (parameter)
TNAI	NADIN Test message interval (parameter)
TNAV	Time NAVigation
TNC	Tiny "N" Connector
TNDCY	TeNDenCY
TNF	Track Next Fix
TNGT	ToNiGhT
TNH	Turn Height
TNKR	TaNKer
TNP	Track Number Pointer
TNS	Tandem Non-Stop
TNS-II	Tandem Non-Stop - II
TNT	Track Number Table
TNTV	TeNtaTive
TO	TakeOff
T.O.	Technical Order
TO	TO (place) (ICAO)
T.O.	Toll Office
TO	surveillance Tie-Off (message ID)
TO	Technical Officer
T&O	Test and Operations
TO	Travel Order
TOA	Time Of Arrival
TOC	Table Of Contents
TOC	TO be Continued
TOC	Top Of Climb (ICAO)
TOC	Transfer Of Communication (Mode S)
TOCP	Tower Operational
TOD	Time Of Day
TODA	TakeOff Distance Available (ICAO)
TODS	Time Of Day Storage
TODS	Time Of Day Synchronization

TOE	Time-Out Effect
TOEC	Time-Out Error Correction (parameter)
TOF	Tag Offset Function
TOG	TakeOff Gross weight
TOMS	Total Ozone Mapping Spectrometer
TOP	cloud TOP
TOP	Technical and Office Protocol
TOPS	Test OPERations
TOR	Technical On-site Representative
TOR	Time of Receipt
TOR	Traffic on Request
TORA	TakeOff Run Available (ICAO)
TORU	Turn Off Reconfiguration Unit (SE to CDC message)
TOS	Type of Service
TOSI	Tower/approach control Overflight Strip print Interval (parameter)
TOT	Time of Transportation
TOVC	Top Of OverCast
TOWB	TOWer Building
TOWR	TOWer applications
TOY	Time-Of-Year
TP	aircraft TyPe
TP	Tangent Point
TP	Technical Performance
TP	Test Plan
TP	Test Point
TP	Test Procedure
TP	Tower Processor
T/P	Tower Processor
TP	Tracking Processor
TP	Transition Plan
TP	Trial Plan
TP	Turn Points
TP	Turning Point
TP	TyPe of aircraft (PIREP only)
TPA	Task Plan of Action
TPA	Traffic Pattern Altitude
TPC	TCCC Position Console
TPC	Tower Position Console
TPC	Tower Prototype Console
TPC-HWCI	Tower Position Console HWCI
TPD	Tangent Point Distance
TPD	Technical Provisioning Documentation
TPDU	Transport Protocol Data Unit
TPF	Tactical Predictions Function
TPF	Transaction Processing Facility
TPG	Target Processing Group
TPG	ToPping
TPL	Transportation Procurement List
TPL	Transportation Program List
TPL	TSARC Program Listing
TPL	TSARC Project List

TPM	Technical Performance Measurement
TPM	Technical Program Manager
TPMR	Technical Performance Measurement Report
TPNS	TeleProcessing Network Simulator
TPP	Technical Program Plan
TPP	Trial Plan Probe
TPPI	Turn Point Posting Indicator
TPR	Test Preparation Review
TPR	Trained Personnel Requirement
TPRG	Test Planning and Requirements Group
TPRG	Test Plan Requirements Group
TPRR	Track Position Recording Rate (parameter)
TPS	Tower Processing Subsystem
TPS	Tower Processor Subsystem
TPSSM	Touch Pad Screen Selection Menu
TPWG	Test Planning Working Group
TPWG	Test Policy Working Group
TPX	military beacon decoder
TPX-42	military radar beacon decoder
TR	Target Reliability
TR	Technical Representative
TR	TeRminal
TR	Test message (message ID)
Tr	Track
TR	Track Record
TR	Trails and Roads
TR	Training Route
TR	military Training Route (VFR low altitude)
T/R	Transmitter/Receiver
T/R	Transmit/Receive
T/R	Transportation Request
TRA	Temporary Reserved Airspace (ICAO)
TRA	TRACON boundaries (RWP)
TRACAB	TRACON in Tower CAB
TRACON	Terminal Radar Approach CONTROL (facility)
TRACS	Transportable Radar Analysis Computer System
TRAD	Terminal RADar
TRADOC	TRaining And DOctrine Command (U.S. Army)
TRADOC	TRaining and DOcumentation Command (U.S. Army)
TRANS	TRANSMit(s) (ICAO)
TRANS	TRANSMitter (ICAO)
TRAT	TCCC Requirements Action Team
TRB	Technical Review Board
TRBL	TRouBL
TRCAB	TRACON in tower CAB
TRD	Test Requirements Document
TRD	Read head
TRD	Transponder Reply Delay
TRDM	Display Test Message switch (parameter)
TRDP	Terminal Route Distance Parameter (parameter)
TRE	Transmit Register Empty (UART)
TRIB	TRIButary

TRIN	Track Restart Interval (parameter)
TRISNET	Transportation Research activity Information Service NETwork
TRL	Technical Review Lead
TRL	TRiaL
TRLVL	TRAnSition LeVeL (ICAO)
TRML	TeRMinaL
TRMS	Technical Requirements Management System
TRMT	TeRMinaTe
TRNG	TRainiNG
TRNSP	TRAnSPort
TRO	Transition concepts & Requirements document
TRO	Transition Requirements Outline
TROF	TROugh
TROP	TROPopause
TROPO	TROPOspheric scatter station
TROS	Transformer Read-Only Storage
TRP	Total Radiated Power
TRPC	maximum parity error data count (parameter)
TRPCD	TROpical Continental (air mass)
TRPCL	TRoPiCaL
TRPHT	TRopoPause Height
TRPLYR	TRaPping LaYeR
TrPost	Trial Posting list
TRR	Test Readiness Report
TRR	Test Readiness Review
TRRN	TeRRain
TRS	Training Requirement Summary
TRSA	Terminal Radar Service Area
TRSA	Terminal Radar Surveillance Area
TRSB	Time Reference Scanning Beam
TRSN	TRAnSition
TRSR	Track Recording Status Report
TRT	Technical Review Team
TRTD	TReaTeD
TRTI	TRack Termination Interval (parameter)
TRVC	TRack Velocity Check (parameter)
TRVT	Transition Requirements Validation Team
TRWG	Test Requirements Working Group
T/S	Tampa/Sarasota
TS	Team Supervisor
TS	Technical Sponsor
TS	Test and Set (instruction)
TS	ThunderStorm (ICAO)
TS	Training Specialist
TS	Transmitter Station
TSA	Tampa/Sarasota umbrella project (case file designator)
TSAR	Tower System Analysis and Recording
TSARC	Transportation Systems Acquisition Review Committee
TSARC	Transportation Systems Acquisition Review Council



TSAS	Tower Standard Automation Suite
TSATLC	Trans-ATLantic
TSB	Track Sort Box
TSC	Tape Speed Control
TSC	Test Signal Conditioner
TSC	Test Signal generator
TSC	Transmitter Start Code
TSC	Transportation Service Center
TSC	Transportation Systems Center (DOT) (Cambridge, Mass.)
TSC	Trans System Corporation
TSCC	TAAS Support Computer Complex
TSEC	Terminal SECondary radar
TSFR	TransFeR
TSFV	FV lock subroutine (flight plan analysis subsystem)
TSG	Test Signal Generator (NADIN)
TSG	Training Scenario Generation
TSGR	ThunderStorm with hail
TSHWR	Thunder SHoWeR
TSI	Time Slot Interchange
TSMNO	TransMitting capability out of service
TSMOK	TransMitting capability returned to service
TSN	Temporary Stock Number
TSNT	Transient
TSO	Technical Standard Order
TSO	Technical Support Office
TSO	Time-Sharing Option
TSO/E	Time-Sharing Option/Extensions
TSP	Teleprocessing Service Program
TSPAC	Trans-PACific
TSQLS	Thunder SquaLLS
TSR	Telecommunications Service Request
TSR	Transition Switch Removal
TSRS	Training Support Requirements Summary
TSS	Technical Support Services
TSSA	ThunderStorm with dustorm (sandstorm) (ICAO)
TSSC	Technical Support Services Contractor
TSSF	Terminal System Support Facility
TSSS	Track Sector Summary Store
TST	Technical Specialty Team
TST	Technical Support Team
TSTM	ThunderSTorm
TSTP	TeST Pattern
TSTP	TeST Pattern request (SE to CDC message) (CCC to DCC message)
TSU	Tactical Special Use (frequency)
TSU	Traffic Simulation Unit
TT	Target Trailing edge
T	Target trailing edge
TT	Technology Transfer
TT	TeleTypewriter (table)

TT	Terminal Transfer
T/T	Tilt/rotate code
TT	Touch Tone
TTB	Tanker/Transport/Bomber training
TTC	Target Track Correlation
TT&C	Telemetry Tracking and Control
TTCNT	Turning Trail track CouNTer
TTTEL	Tools and Test Equipment List
TTG	Test Target Generator
TTG	Training Target Generator
TTI	Tabular Track Index
TTI	Total Totals Index
TTK	True Track
TTL	Transistor/Transistor Logic
TTP	Technical Transition Point
TTP	Transmission Time Pulse
TTR	relative disk address (Track/Track/Record)
TTRP	Teletype Transmission Retry Parameter (parameter)
TTS	TeleType Switching facilities
TTU	Time Transfer Unit
TTY	TeleType(writer)
TTY	TeleTypewriter subsystem (case file designator)
TTYLL	TeleType Long Lines
TTYMNT	TeleType MaiNTenance program
TU	Tape Unit
TU	Text Unit
TU	Track Update (message ID)
TU	Trunk Unit
TUE	TUEsday
TURB	TURBulence (ICAO)
TURBC	TURBulenCe
TURBT	TURBulent
TV	Target Validation threshold
TV	TeleVision
TVBS	Track Velocity Beacon Search area (parameter)
TVD	Terminal Video Digitizer
TVE	Test Vector Error
TVL	TraVeL
TVOR	Terminal VOR
TVRTM	Test Verification Requirements Traceability Matrix
TWA	Two-Way Alternate
TWA	Two-WAY simultaneous
TWBE	Transcribed Weather Broadcast Equipment
TWDR	Terminal Doppler Weather Radar
TWEB	Transcribed WEather Broadcast
TWEB	Transcribed Weather En route Broadcast
TWG	Training Working Group
TWG	Training Working Group
TWG	Transition Working Group
TWI	TWIlight
TWLS	TaxiWay Lighting System
TWR	aerodrome control (ICAO)

TWR	aerodrome control ToWeR (ICAO)
TWR	ToWeR
TWR	WRite head
TWRG	ToWeRing
TWS	Track While Scan
TWS	Two-Way alternate
TWX	TaXiWay
TWX	TeletypeWriter eXchange service
TWX	TransWire (information) eXchange
TX	Temporary cancellation, bulk flight plan (message ID)
TX	Transmit
TX	Transmitter
TXG	TaXiinG
TX-RX	Transmit/Receive
TY	IOT output device (table)
TWY	TaxiWaY (ICAO)
TWYL	TaxiWaY-Link (ICAO)
TYP	aircraft TYPE
TYPE	aircraft TYPE (FDE tower data)
TYPH	TYPHoon (ICAO)
TYPNO	TeletYPewriter communications out of service
TYPOK	TeletYPewriter communications returned to service

U	intensity Unknown
U	Unavailability
UA	routine PIREP
UA	Unable to Approve arrival for the time specified
UAB	Until Advised By
UAC	Upper Area Control centre (ICAO)
UAF	User Authorization File
UAG	Upper Atmosphere Geophysics
UAK	flight plan buffer management subroutine (posting determination subsystem)
UAN	User Access Network
UAR	Upper Air Route (ICAO)
UAS	Uniform Accounting System
UAT	Until Advised by Tower
UB	Utility Building
UBSF	prefiled Bulk Store assembler (NOSS support program)
UBSF	Universal Bulk Store Find
UC	Coverage Unavailability for the system
UCA	FDEP Combination Addressed hardware error processor subprogram (hardware error processing subsystem)
UCDWN	Until Cleared DOWN
UCE	NRKM hardware error processor subprogram (hardware error processing subsystem)
UCLT	Until Cleared to Land by the Tower
UCN	Uniform Control Number
UCON	Unit CONFIGuration status request (SE to CDC message)
UCR	Compatibility Reject subroutine (flight status alerts subsystem)
UCR	Unsatisfactory Condition Report
UCS	Universal Character Set
UD	Unable to approve Departure for the time specified
UDD	Update Detailed Design
UDDF	Up and Down Drafts
UDE	R-CRD hardware error processor subprogram (hardware error processing subsystem)
UDF	Unit Development Folder
UDI	UpDate (time) Increment
UDP	CRD/FDEP Update Processor subroutine (flight status alerts subsystem)
UDS	Universal Data Set (adaptation)
UDSK	Use DiSK (monitor message ID)
UDT	Unit Definition Table
UES	Entering Sector logic subroutine (flight status alerts subsystem)
UFA	Until Further Advised
UFB	Update FZ Building subroutine (flight status alerts subsystem)
UFCR	Up-line Carriage Return

UFD	FDEP hardware error processor subprogram (hardware error processing subsystem)
UFN	Until Further Notice
UFO	Unidentified Flying Object
UFSM	Unavailability of the Full Service Mode
UFT	Undergraduate Flying Training
UH	Unavailability of the Hardware
UHDT	Unable Higher Due Traffic (ICAO)
UHF	Ultra-High Frequency
UI	Universal Interface
UIC	Upper Information Center (ICAO)
UIC	Unit Interface Control
UIC	Universal Interface Controllers
UIL	User Interface Language
UIR	Upper flight Information Region (ICAO)
UIR	Upper Information Region
UK	United Kingdom
UKADGE	United Kingdom Air Defense Ground Environment
UL	Underwriters Laboratories
ULL	Utility Library Loader
ULP	Upper-Level Protocol
ULR	recording data processor (NOSS DR&A program)
ULR	Ultra-Long Range (ICAO)
UM	Unable to Maintain
UM	Users Manual
UMON	NOSS MONitor (NOSS utility program)
UN	UNable
UN	United Nations
UNA	ARTS III hardware error processor subprogram (hardware error processing subsystem)
UNA	UNable (ICAO)
UNAP	UNable to APprove (ICAO)
UNAPV	UNable to APproVe
UNAR	UNable to approve Altitude Request
UNATNDD	UNATteNDeD
UNAVBL	UNAVailaBLe
UNCC	UNable to Contact Company radio
UNDL	UNDeLivereD
UNEC	UNNECessary
UNFV	FV UNlock subroutine (flight plan analysis subsystem)
UNHRD	UNHeaRD
UNICOM	aeronautical advisory station
UNICOM	UNIversal COMMunications (non-Government communications facility)
UNID	UNIDentified
UNKN	UNKNown
UNL	UNLiimited
UNLGTD	UNLiGhTeD
UNMON	UNable to MONitor
UNN	NAS hardware error processor subprogram (hardware error processing subsystem)

UNOFF	UNOFFicial
UPR	User-Preferred Route
UNRDBL	UNReaDaBLe
UNRELBL	UNRELiABLe
UNRP	Retransmission Phase I
UNRR	UNable to approve Route Requested
UNRSTD	UNReStricTeD
UNT	Undergraduate Navigator Training
UNTC	UNable To establish Contact
UNTE	OS Edit subprogram
UNTESIZE	OS core study program (NOSS DR&A program)
UP	UniProcessor
U/P	UPdate
UPC	Unit Production Cost
UPC	Universal Product Code
UPD	Update Preliminary Design
UPN	Program report/hold processor subroutine (flight status alerts subsystem)
UPS	Uniform Payroll System
UPS	Uninterrupted Power Source
UPS	Uninterrupted Power Supply
UPS	Uninterruptible Power Source
UPS	Uninterruptible Power System
UPS	United Parcel Service
UPS	Universal Polar Stereographic
UPT	Undergraduate Pilot Training
UPT	Uninterruptible Power Transfer
UR	Umbilical Retainer
UR	Upper wind Request (message ID)
URAUZ	you Are AUTHorized
URDT	Unspecified Route Display Time (parameter)
UREST	Unavailability of the REST of the system
URI	Incomplete Route alert subroutine (flight status alerts subsystem)
URIZR	your Recommendation Is Requested
URP	Utility Route Processing/radar processing test program (NOSS utility program)
US	Unavailability of the system's Software
U/S	UnServiceable (ICAO)
USA	U. S. Army
USAF	U. S. Air Force
USAFIB	U. S. Air Force Flight Information Bulletin
USAFIB	U. S. Army Flight Information Bulletin
USART	Universal Synchronous/Asynchronous Receiver/Transmitter
USB	Upper Side Band
USBL	USaBLe
USCG	U. S. Coast Guard (DOT)
USCINCPAC	U. S. Commander IN Chief PACific Command
USD	Utilization, Screening, and Disposal system
USG	Group Suppression FZ builder subroutine (inquire processing subsystem)

USGS	United States Geological Survey
USMC	United States Marine Corps
USN	United States Navy
USNOF	United States NOTAM Office
USP	Urgent SPecial
USPACOM	United States PACific COMmand (DOD)
USRE	USE Recovery Data (monitor message ID)
USSF	Unavailability of the Sector Suite Subsystems
UST	Underground Storage Tank
USWB	United States Weather Bureau
UT	Unit Test
UT	Unsuccessful Transmission
UT	Untracked Target
UTA	Upper control Area (ICAO)
UTC	Coordinated Universal Time (Zulu)
UTC	Universal Time Clock
UTC	Universal Time Coordinated
UTF	Universal Transmission Format
UTI	Unresolved Technical Issues
UTI	User Terminal Interrupt
UTIL	program equipment checkout UTILity
UTIL	UTILity software
UTILITY	UTILITY software
UTM	Universal Transverse Mercator
UTM	Unsatisfactory Transmission Message
UTM	Unsuccessful Transmission Message
UTP	Universal Twisted Pair
UTR	Unit Test Review
UTY	Teletype hardware error processor subprogram (hardware error processing subsystem)
UUA	Urgent PIREP
UUT	Unit Under Test
UUTS	Unit Test Support subprogram
UVV	Upward Vertical Velocity
UW	enter Upper Winds (message ID)
UW	Upper Winds (winds aloft forecasts)
UWAL	Upper Winds Adapted Levels (parameter)
UWNDS	Upper WiNDS
UWS	Urgent Significant meteorological information
UZ	flow control update information (message ID)

V	ATIS character (FDE tower data)
V	Validation
V	Variable (weather reports only)
V	Verification
V	VFR inhibit list
V	Voice
V	Voltage
V	Volts
$V_a$	design maneuver speed
$V_b$	design speed for maximum gust intensity
$V_c$	design cruising speed
$V_d$	design diving speed
$V_{df}/M_{df}$	demonstrated flight diving speed
$V_f$	design flap speed
$V_{fc}/M_{fc}$	maximum speed for stability characteristics
$V_{fe}$	maximum flap extended speed
$V_h$	maximum speed in level flight with maximum continuous power
$V_{le}$	maximum landing gear extended speed
$V_{lo}$	maximum landing gear operating speed
$V_{lof}$	lift off speed
$V_{mc}$	minimum control speed with the critical engine inoperative
$V_{mo}/M_{mo}$	maximum operating limit speed
$V_{mu}$	minimum upstick speed
$V_{ne}$	never exceed speed
$V_{no}$	maximum structural cruising speed
$V_r$	rotation speed
$V_s$	minimum steady flight speed at which the airplane is controllable (stalling speed)
$V_{so}$	minimum steady flight speed in the landing configuration (stalling speed)
$V_s^1$	minimum steady flight speed obtained in a specified condition.
$V_x$	speed for best angle of climb
$V_y$	speed for best rate of climb
$V^1$	takeoff decision speed (formerly denoted as critical engine failure speed)
$V^2$	takeoff safety speed
$V_{min}^2$	minimum takeoff safety speed
VA	Mode 3/A Validity
VA	Victor Airways
VAC	Visual Approach Chart (ICAO)
VAC	Volts Alternating Current
VAD	Velocity Azimuth Display
VADA	VFR Arrival Delay Advisory
VAL	in VALleys (ICAO)
VAMP	Video AMPLifier
VAPS	V/STOL Approach System
VAR	magnetic VARIation
var	variation



var	variable
VAR	Video mixer AmplifieR
Var	Variation
VAR	Visual-Aural Radio range (ICAO)
VARN	VARiation
VAS	Visible Atmospheric Sounder
VAS	Vortex Advisory System
VASI	Visual Approach Slope Indicator
VAX	Virtual Address eXtension (a series of 32-bit computers manufactured by Digital Equipment Corporation)
Vc	Mode C Validity
VC	Virtual Circuit
VCC	coordination indicator counter subroutine (interfacility output subsystem)
VCE	Voice Communication Equipment
VCE	VSCS Console Equipment
VCLR	Visual Control Logic Representation
VCNA	VTAM Communications Network Application
VCNTY	ViCiNiTY
VCO	Voice Communications Outlet
VCOT	VFR Condition On Top
VCP	VSCS Call Processor
VCRI	Verification Cross-Reference Index
VCS	Coordination Sector locator subroutine (hardware error processing subsystem)
VCS	Voice Communications System
VCSL	Voice Call Sign List
VCTR	VeCToR
VCY	ViCinity (ICAO)
VD	Voice Dial
vdc	direct current voltage
VDC	Video Display Console
VDC	Volts, Direct Current
VDD	Version Description Document
VDEV	Vertical DEVIation
VDF	Very-high frequency Direction Finding station (ICAO)
VDF	VHF Direction Finder (case file designator)
VDJM	VCE Dual Jack Module
VDM	Voice Data Multiplexer
VDM	VSCS Display Module
VDP	Visual Descent Point
VDR	Video Data Register
VDVR	Vertical DriveR
VEA	VSCS Electronics Assembly
VECP	Value Engineering Change Proposal
VEH	VEHicle
VELC	divergence/convergence parameter (parameter)
VEM	VSCS Electronics Module
VER	VERTical
VERR	flight plan Velocity Error threshold (parameter)

VEX	interfacility UTM processing subroutine (interfacility output subsystem)
VF	maintaining Visual Flight
VF	Voice Frequency
VFLT	Visual FLIGHT
VFPR	Via Flight Plan Rules
VFR	Visual Flight Rules
VFR ADV	Visual Flight Rules ADVisory service
VFRBC	VFR Beacon Codes record (adaptation record)
VFRSA	VFR restrictions Still Applied
VFS	Flight Strip printer UTM format subroutine (hardware error processing subsystem)
VFSS	Voice-Frequency Signaling System
VFY	VeriFY
VG	Video Generator
VGA	Video Graphics Adapter
VHF	Very-High Frequency
VHF/DF	Very-High Frequency/Direction Finding
VHSIC	Very High Speed Integrated Circuits
VIA	by way of
VIC	VICTor airways (RWP)
VID	Vertical Interval Decoder
VIDA	VCE InterActive Display
VIG	Verification Issues Group
VIK	VSCS Indirect access Keypad
VIOL	VIOLation
VIP	Very Important Person
VIP	Video Integrator and Processor
VIP	Visual Integrated Presentation
VIS	VISibility
VISSR	VISible Infra-red Spin
VISSR	VISible infra-red spin Scan Radiometer
VLAT	Vector Look-Ahead Time (parameter)
VLCTY	VeLoCiTY
VLF	Very-Low Frequency
VLFD	Via Low Frequency Direct
VLNT	VioLeNT
VLR	Very Long Range (ICAO)
VLSI	Very Large Scale Integration
VLY	VaLleY
VM	Virtual Machine operating system
VM	Virtual Memory
VM	Voice Modulation
VM/370	Virtual Machine/system 370
VMA	Virtua. Machine Assist
VMAP	Video MAPping equipment
VMAP	Virtual MACHine Performance monitor analysis program
VM/AS	VM/Application System
VM/BSE	VM/Basic System Extensions
VMC	Visual Meteorological Conditions
VM/CMS	VM/Conversational Monitor System

VMCP	Virtual Machine Control Program
VMD	Video Modulator and Driver
VMDT	Verification Methods Description Table
VME	Versa Module European
VME	Video Mapping Equipment (case file designator)
VMG	input/output typewriter UTM format subroutine (hardware error processing subsystem)
VM/HPO	VM/High Performance Option
VM/IFS	VM/Interactive File Sharing
VMPPF	VM Performance Planning Facility
VM/RTM	VM/RealTime Monitor
VMS	Virtual Memory System (DEC operating system for the VAX)
VM/SE	VM/System Extension
VMSP	VM Source Program
VM/SP	VM/System Product
VM/SP HPO	VM/Systems Program High-Performance Option
VMSR	Verification Methods Summary Report
VMST	Verification Methods Summary Table
VNAV	Vertical NAVigation
VNCA	VTAM Node Control Application
VO	Vertical Output
VOC	Vertical OsCillator
VOD	Via Omni-Direct
VOHAC	Visibility Of Holding AirCRAFT record (adaptation record)
VOL	VOLume
VOLMET	METeorological information for aircraft in flight (ICAO)
VOPR	Voice-OPERated Relay
VOR	VHF Omnidirectional Radio range
VOR	VHF Omnidirectional Range
VOR	VORTAC shelter (case file designator)
VOR/DME	VOR and DME (collocated)
VORTAC	VOR and TACAN (collocated)
VOT	VOR airborne equipment test facility (ICAO)
VOT	VOR Test signal
VOT	VorTicity
VOU	VOUcher
VOX	Voice-Operated detection
VP	Vertical Profile
VP	Vice President
VP AE	Vertical Profile Angle Error
VPE	VSCS Position Equipment
VPEB	VSCS Position Electronic Box
VPIP	Vertical Profile Intercept Point
VPP	OLC Verification Post-Processor (NOSS support program)
VPQ	Video Pulse Quantizer
VPS	VSCS Product Specification
VR	Veer
VR	VFR military training Route

VR	Visual Range
VR	Visual Route
VRB	VaRiABle (ICAO)
VRBL	VaRiABLe
VRC	Vertical Redundancy Check
V/RD	Voice/Ring Down
VRG	Visual Reference Gait
VRISL	Vancouver ISLand
VRM	Variable Range Marker
VRM	Virtual Resource Manager
VRM	VRM-COTS operating system
VAN	runway control VAN (ICAO)
VRS	Voice Response System
VRTM	Verification Requirements Traceability Matrix
VRT MOTN	VERTical MOTion
vs	versus
VS	Virtual Storage
VSA	by ViSuAl reference to the ground (ICAO)
VSA	VCE Speaker Assembly
VSA	Vertical Sync Amplifier
VSAM	Virtual Storage Access Method
VSB	ViSiBle
VSBY	ViSiBility
VSEYDR	ViSiBility Decreasing Rapidly
VSCS	Voice Switching and Control System
VSCS	Voice Switching Communication System
VSD	Vertical Shift Driver
VSE	Virtual Storage Extended
VSE/PT	VSE/Performance Tool
VSI	Visual approach Slope Indicator system (VASI) (case file designator)
VSL	Vertical Speed Limit
VSL	VeSseL
VSLSF	Vertical Slit Length Scale Factor
VSMF	Visual Search Microfilm Files
VSP	Vertical SPeed (ICAO)
VSPI	Visual glide Path Indicator
VSR	Vertical Sync Register
VSTOL	Vertical/Short Take-Off and Landing
V/STOL	Vertical/Short Take-Off and Landing
VSTP	Version Specific Test Plan
VSWR	Voltage Standing Wave Ratio
VT	Validation Test
VTa	Vertex Time of Arrival (RWY adapted vertex)
VTAM	Virtual Telecommunications Access Method
VTAM	Virtual Teleprocessing Access Method
VTAME	VTAM Entry
VTAMPARS	VTAM Performance Analysis Reporting System
VTC	VORTAC (2nd generation VOR/VORTAC/DME)
VTC	VORTAC general (case file designator)
VTI	Vertical Totals Index
VTL	Vertical Total Luminance

VTN	Verification Trace Numbers
VTOC	Volume Table Of Contents
VTOL	Vertical Takeoff and Landing
VTR	VecToR
V&V	Validation and Verification
V&V	Verification and Validation
VWS	Vertical Wind Shear

W	indefinite ceiling
W	Warm (air mass)
W	Watt(s)
W	Weather (radar)
W	West
W	White (ICAO)
WA	AIRMET
WA	Weather Advisor
WA	Weather Advisory
WAC	Continuous Airmen's meteorological information
WAC	Walking Around Concept
WAC	Weeks After Contract award
WAC	World Aeronautical Chart
WADA	Weather Azimuth Division Area
WAFC	World Area Forecast Center (ICAO)
WAIOP	Will Accept If Offered the Position
WAN	Wide Area Network
WANS	Weather and NOTAM Service
WANS	Weather and NOTAM System
WAO	Weapons Assignment Officer
WAS	WAShington, DC
WATS	Wide Area Telecommunications Service
WATS	Wide Area Telephone Service
WB	Weather Bureau
WB	WestBound (ICAO)
WBA	Weather Briefing Area
WBAN	Weather Bureau, Air Force/Navy
WBAR	Wing BAR lights (ICAO)
WBAS	Weather Bureau Airport Stations
WBC	Weeks Before Contract
WBCW	Write Buffer Control Word
WBND	WestBOUND
WBRBN	Will Be Reported By NOTAM
WBRh	Weather Bureau Regional Headquarters
WBRR	Weather and fixed map unit
WBRR	Weather Bureau Radar Remoting
WBRR	Weather Bureau Remote Radar
WBS	Work Breakdown Structure
WBSID	Work Breakdown Structure IDentification
WBTS	WhereaBouTS
WBX	Wet Bulb zero
WC	Weapons Controller
WC	Weather Coordinator
WC	Work Center
WCLC	Watch Check List Completed
WCD	Warning Control Decoder
WCD-1	World Data Centers in Western Europe
WCD-2	World Data Centers throughout rest of world
WCKG	Write Clock Generator
WCP	Weather Communications Processor
WCPN	previous CPMI minute CPU threshold (parameter)
WCPO	previous minute CPU threshold (parameter)

WD	Weapons Director
WD	Wind Direction
WD	Working Draft
WDBA	Weather Data Base Analysis report
WDI	Wind Direction Indicator (ICAO)
WDLY	WiDeLY
WDR	Wind DiRection (FDE tower data)
WDSPR	WiDeSPRead
WDT	Watch Dog Timer
WE	Western Electric Company
WEA	WEAther
WEABU	WEAther BUreau
WECO	Western Electric Company
WED	WEDnesday
WEF	With EEffect from (ICAO)
WEF	EEffective from (ICAO)
WF	Weighting Factor
WFA	Area Weather Forecast
WFMU	Weather and Fixed Map Unit
WFP	Warm-Front Passage
WFT	Terminal Forecast message
WFX	prognostic map discussion message
WG	Wave Guide
WG	Wind Gust (FDE tower data)
WGDBR	Weather Graphics Data Base analysis Report
WGF	Grid Winds aloft (RWP)
WGS	World Geodetic System
WH	Hurricane advisory
Wh	Watt hour
WI	WithIn
WIBIS	Will Be ISSued
WICA	While In Control Area
WICZ	While In Control Zone
WID	Weather Information Display for controllers
WID	WIDth (ICAO)
WIE	With Immediate Effect (ICAO)
WIE	EEffective Immediately (ICAO)
WIL	Warning Indicator Latch
WILCO	WILL Comply
WIND	forecast Wind record (adaptation record)
WINDSAT	WIND SATellite
WINT	WINTer
WINTeM	forecast upper WIND and TEMperature (ICAO)
WIP	Work In Progress
WIRG	Warning Indicator Reset Gates
WK	WeeK
WKDY	WeeKDaY
WKND	WeeKeND
WKN	WeaKeN
WKN	WeaKeNing (ICAO)
WL	Will
WLAV	Will Advise

WMC	WMSC computer equipment (case file designator)
WME	Wind-Measuring Equipment
WMO	World Meteorological Organization
WMS	Modernized Weather teletypewriter communications System (case file designator)
WMS	Weather Message System
WMSC	Weather Message Switching Center
WMSCR	Weather Message Switching Center - Replacement
WMSC-R	Weather Message Switching Center - Replacement
WMSU	Weather Message Switching Unit
WND	WiND
WNW	West NorthWest
WNWRN	West-NorthWestERN
WNWWD	West-NorthWestWarD
WO	Washington Office
WO	Weather Observation (message ID)
WO	WithOut (ICAO)
WOG	Weather data subsystem (case file designator)
WOG	Weather Outline Generator
WORKMOD	WORKload MODel
WORM	Write Once Read Many
WP	Way Point (RNAV)
W/P	Way Point (RNAV)
WP	Word Processing
WP	Word Processor
WP	Working Paper
WPL	Wave Propagation Laboratory
WPLTO	Western PLATeau
WPM	Words Per Minute
WPT	WayPointT
WR	Remote Weather radar display
WR	Weather Request (message ID)
WR	Wet Runway
WR	WRite circuit
WRC	Well to Right of Course
WRD	Weather Radar remote Display system (case file designator)
WRD	WRite Direct
WRM	WaRM
WRMFRNT	WaRM FRONt
WRNA	Warning time (when track pair are from coarse geographic filter) (parameter)
WRNB	Warning time (when track pair are from conflict pairs table) (parameter)
WRNC	Warning time applied to projected altitude separation (parameter)
WRNG	WaRNinG
WRP	Weather Radar Program
WRS	WoRSe
WS	SIGMET
WS	Watch Supervisor
WS	Weak Signals



WS	Weather advisory from SIGMET
WS	Weather data (table)
WS	Weather SIGMET
WS	Wind Speed
WS	WindShear (ICAO)
WS	Wire Strap
WS	Work Station
WSA	Surface Aviation Weather observation
WSEC	Working SECTOR
WSF	Work Station Facility
WSFO	Weather Service Forecast Office
WSFO	Weather Service Forecast Officer
WSHT	Wind SHift
WSI	Weather Services International
WSL	Wind Sock Lights
WSM	Weather Summary Message
WSMU	Weather Message Switching Unit
WSO	Severe Weather Outlook message
WSO	Weather Service Office
WSOM	Weather Service Operations Manual
WSR	Weather Search Radar
WSR	Weather Service Radar
WSSF	national Weather Support Service Facility
WSSU	national Weather Support Service Unit
WST	convective SIGMET
WSTCH	WaSaTCH range
WSU	Weather Service Unit
WSW	West SouthWest
WSWRN	West-SouthWestERN
WSWWD	West-SouthWestWard
WT	Weather Type
WT	Weight
WTC	New York (World Trade Center), NY (helipad designator)
WTCD	Weather Test Calibration Device
WTR	WaTeR
WTR	Well To Right
WTSPT	WaTerSPouT
WTW	Transcribed Weather message
WU	Western Union Company
WV	WaVe
WV	Wind at altitude (PIREP only)
WV	Wind Vector
WV	Wind Velocity
W/V	Wind direction and Velocity
WVAS	Wake Vortex Avoidance System
WVD	Weather Video Digitizer
WW	Weather Warning
WW	severe Weather Warning
WWA	AIRMET message
WWC	Weather Correction and entry message
WWD	detailed Weather message

WWG	Graphic data display message
WWG	Weather Working Group
WWH	Hurricane advisories
WWK	density altitude message
WWL	Local Weather message
WWMCCS	World-Wide Military Command and Control System
WWO	tropical depression advisory message
WWR	Warning data message
WWS	SIGMET message
WWT	Weather Trend message
WWV	call letters for NBS radio station in Fort Collins, CO, for timing signals
WWVB	NBS at Fort Collins, CO (40 41 28.3N, 105 02 39.5W) 60 kHz
WWW	severe Weather forecast message
WWX	selected Weather message
WWY	transmit pilot Weather report message
WX	enter Weather information (message ID)
WX	Weather
WXCAL	NAS Weather map CALculator (OS maintenance support program)
WXCON	Weather reCONnaissance flight pilot report
WXDM	Weather Data Management
WXDsp	Weather Display
WYAIO	Will You Accept, If Offered, the position of ...

X	continuation message
X	cross
X	holding taXiing indicator (FDE Tower data)
X	not applicable
XA	eXtended Architecture
XAD	NAS Abort Dump subroutine
XAK	post-I/O-complete subroutine (flight status alerts subsystem)
XAL	CRD output ALert message formatting subroutine (flight status alerts subsystem)
XAT	Application dump to Tape subroutine
XBAR	crossBar (ICAO)
XBI	Buffer Initialization subroutine
XBU	system hang analysis subroutine
XC	CRD device (table)
XCA	accept message formatting subroutine (inquiry processing subsystem)
XCD	Core-Dump-to-disk subroutine
XCH	disk address Conversion subroutine
XCP	eXCePt
XCPL	cross-CouPLing
XCU	initialize CDC subroutine
XCVR	transVeivEr
XDA	Device Assignment subprogram
XDD	Disk to printer subroutine
XDI	I/O initialization subprogram
XDS	Data Set scratch subroutine
XDX	disk to disk data set copy subroutine
XE	output Error message
XEB	center B Eastern circuit
XED	on-line EDit command interpretation and load module construction subroutine
XEDIT	eXtended EDITor (VM/CMS)
XEL	ELement error analysis subroutine
XEP	on-line Edit rePort subroutine
XFD	Formatted Dump subroutine
XFER	transFER
XFF	RB Fixed-block subroutine
XFM	SVC FRMAIN subroutine
XFP	Flight Plan data formatting subroutine (inquiry processing subsystem)
XFS	FPA assignment subroutine (posting determination subsystem)
XFX	Find eXtent subroutine
XGB	SVC Get fixed Block (GETFB) subroutine
XGD	SVC Get Directory entry (GETDE) subroutine
XGM	SVC GTMAIN subroutine
XGN	Get Next cylinder subroutine
XGO	output GO message subroutine (inquiry processing subsystem)
XGP	Get data set LDN subroutine

XH	special Handling service for aircraft
XIA	PFETCH Interrupt Appendage subroutine
XIC	Initialize Channel assignments subprogram
XID	eXchange IDentification
XIE	I/O Error analysis subroutine
XLD	on-line LoaDer subroutine
XLI	SVC LINK subroutine
XLR	Load module Relocate subroutine
XLSA	Extra-Large Search Area
XLSA	length of a side of a square to be used as the LSA in discrete correlation when the NDCT threshold is reached (parameter)
XMCX	input/output interrupt
XMITR	transMITter
XMT	TransMIT
XMT	TransMiT key
XN	address translation (table)
XNF	Non-Flight-strip processing subroutine (flight status alerts subsystem)
XNG	crossiNG
XNM	NAS Map generation subroutine
XOT	strip Output Timing subroutine (supervisory subsystem)
XPB	SVX Put fixed Block (PUTFB) subroutine
XPC	eXpeCt
XPF	SVC Program Fetch (PFETCH) subroutine
XPL	SVC Program Load (PLOAD) subroutine
XPLOS	eXPLOsive
XPND	eXPaND
XPP	flight Position determination subroutine (supervisory subsystem)
XPS	conflict alert group Suppression Printout subroutine (flight status alerts subsystem)
XPU	SVC Program Unload (PULOAD) subroutine
XR	R-CRD device (table)
XREF	cross-REfERENCE (list)
XREP	auXiliary REPort
XRF	altimeter-setting Formatting subroutine (inquiry processing subsystem)
XRI	Restart I/O subprogram
XRJ	Format Computer-Originated Message subroutine (display channel output subsystem)
XRK	configuration execution subroutine
XRL	Radar Lists and automatic track timing subroutine (supervisory subsystem)
XRM	CRD output ReMArks, indefinite hold, and aircraft ID update formatting subroutine (flight status alerts subsystem)
XRP	Flight Progress Strip and Remarks subroutine (flight status alerts subsystem)
XRU	CRD Output Formatting Control subroutine (flight status alerts subsystem)

XRV	SVC Read VTOC subprogram
XRX	CRD output mutual service task subroutine (flight status alerts subsystem)
XS	atmoSpherics (ICAO)
XSP	CRD output SPeed update formatting subroutine (flight status alerts subsystem)
XST	STart I/O subprogram
XSV	contents SuperVisor subroutine
XSW	SVC STOW directory entry subroutine
XTAL	crystal
XTD	Dump to Tape subroutine
XTH	core Tape Header/trailer subroutine
XTI	Test Initialization subroutine
XTLK	Cross-TaLK
XTM	CRD output TiMe update formatting subroutine (flight status alerts subsystem)
XTN	merge field 10 subroutine (flight status alerts subsystem)
XTRK	cross-TRack deviation
XTK	cross-Track distance
XTS	eXternal Time Source
XUM	table UM entry composer subroutine (display channel output subsystem)
XUP	CRD output miscellaneous UPdate message formatting subroutine (flight status alerts subsystem)
XUT	CRD output Unsuccessful Transmission message formatting subroutine (flight status alerts subsystem)
XWB	universal call (all facilities on Service B)
XX	heavy (used to qualify weather phenomena such as rain) (ICAO)
XXZ	supplemental B circuit 98

Y	approach type (FDE tower data)
Y	Yellow(ICA0)
Y	Yukon standard time
YCZ	Yellow Caution Zone (ICA0)
YD	YarD
YDA	YesterDAY
YKN	YuKoN
YL	approach Light lane
YLSTN	YeLlowSToNe
YM	radar coverage Mode control (message ID)
YM	Your Message
YMD	Your Message Data
YR	radar coverage control site status Request (message ID)
YR	Retry record (table)
YR	YouR
YS	radar coverage Site operational acceptability (message ID)

Z	aZimuth angle
Z	jet terminal area
Z	Z marker
Z	Zulu (Greenwich mean time)
ZA	collimation or registration Analysis request (message ID)
ZD	radar coverage performance endpoint Deletion request (message ID)
ZD	Zenith Distance
ZD	Zone Difference
ZDA	DARC processor I/O device-dependent code sub- program
ZDC	CDC I/O device-dependent code sub-program
ZDK	2314 DAS I/O device-dependent code sub-program
ZDS	3880 DASD I/O device-dependent code sub-program
ZDS	Zilog Development System
ZE	permanent Echo verification request (message ID)
ZENV	altitude ENvelope (non-Mode C) (parameter)
ZFD	FDEP I/O device-dependent code sub-program
ZI	Zonal Index
ZI	Zone of Interior
ZI	freeZing DrIzzle (weather reports only)
ZII	INTI I/O device-dependent code sub-program
ZIO	INTO I/O device-dependent code sub-program
ZIT	IOT I/O device-dependent code sub-program
ZM	radar/beacon parameter Modification (message ID)
ZM	Z Marker (VHF station location marker)
ZMC	SMMC I/O device-dependent code sub-program
ZMCX	I/O interrupt analysis sub-program
ZMP	MSP I/O device-dependent code sub-program
ZN	pressure pattern displacement
Zn	true aZmuth
ZP	radar coverage Performance status/summary request (message ID)
ZPN	card PuNch I/O device-dependent code sub-program
ZPR	high-speed PRinter I/O device-dependent code sub- program
ZPRPM	radar coverage PeRformance status Printout/suMmary
ZQ	on-line QARS report request (message ID)
ZQARS	on-line QARS report
ZR	freeZing Rain (weather reports only)
ZR	Registration/collimation analysis status request (message ID)
ZRD	card ReaDer I/O device-dependent code sub-program
ZS	radar Site status/summary request (message ID)
ZS	Zone Size
ZSC	SCCU I/O device-dependent code sub-program
ZSP	FSP I/O device-dependent code sub-program
ZSR	I/O device-dependent code miscellaneous SubRoutine
ZSW	3814 I/O device-dependent code sub-program
ZT	radar site Test message request (message ID)
ZT	Zone Time

ZTA	TAM I/O device-dependent code sub-program
ZTB	KVDT I/O device-dependent code sub-program
ZTD	TOD synch CCA I/O device-dependent code sub-program
ZTE	local printer I/O device-dependent code sub-program
ZTH	Half-duplex TTY I/O device-dependent code sub-program
ZTI	TTY In I/O device-dependent code sub-program
ZTO	TTY Out I/O device-dependent code sub-program
ZTP	TaPe I/O device-dependent code sub-program
ZTS	coded Time Source I/O device-dependent code sub-program
ZULU	system time of day (Greenwich Mean Time)
ZVF	Zero Velocity File
ZVF	Zero Velocity Filter
ZZZ	emergency message



OTLP	zero Transmission Level Point
2BLD	2-Byte Logical Data
30XX	03X and 308X processors (IBM)
303X	3031, 3032, and 3033 processors (IBM)
308X	3081, 3083, and 3084 processors (IBM)
3082	model X16, processor controller (system control, maintenance support, monitoring and system support)
3083	HSC central processor
3087	HSC coolant distribution unit
3089	HCS power distribution unit
3090	next-generation replacement of 3083 central processor
3180	KVDT
3268	HCS console printer
3274	HCS terminal control unit cluster controller
3278	KVDT display station console
3380	HCS disk drive
3420	HCS tape unit
3480	HCS cartridge tape subsystem
	A22 control unit
	B22 cartridge tape unit
3725	communications controller-model 2
3727	operator console (KVDT)
3803	HCS tape control unit
3814	switch management system (SA)
3864	modems (2400-4800 bps)
3880	HCS storage control unit
3BLD	3-Byte Logical Data
3-DR	3-Dimensional Radar
3lw	3-level weather
4248	HCS high-speed printer
4300	4321, 4331, 4341, 4361, and 4381 processors (IBM)
4311	consolidated NOTAM system (IBM 4331)
4805	configuration control register
4BLD	4-Byte Logical Data
5ESS	(tm) #5 Electronic Switching System
9020	IBM computer system model number

## APPENDIX B

### FAA OFFICE SYMBOLS

#### FAA Headquarters Office Symbols

AAA	Office of Accounting
AAD	Associate Administrator for Administration
AAF	Associate Administrator for Airway Facilities
AAI	Office of Accident Investigation
AAM	Office of Aviation Medicine
AAP	Advanced Automation Program Office
AAP	Automation Service (no longer in existence)
AAS	Office of Airport Standards
AAT	Associate Administrator for Air Traffic
ABU	Office of Budget
ACP	Airport Capacity Program Office (no longer in existence)
ACQ	Office of Acquisition Policy and Oversight
ACR	Office of Civil Rights
ACS	Office of Civil Aviation Security
ADA	Office of the Deputy Administrator
ADL	Associate Administrator for Development and Logistics (no longer in existence)
ADM	Associate Administrator for Advanced Design and Management (no longer in existence)
ADS	Advanced System Design (no longer in existence)
AEE	Office of Environment (no longer in existence)
AEE	Office of Environment and Energy
AES	System Engineering Service (no longer in existence)
AEU	Europe, Africa, and Middle East Office
AFE	Flight Systems Engineering Service
AFO	Office of Flight Operations (no longer in existence)
AFS	Flight Standards Service
AGC	Office of the Chief Counsel
AGI	Office of Government and Industry Affairs
AHD	Office of Human Resource Development
AHP	Office of Human Resource Planning and Evaluation (no longer in existence)
AHR	Associate Administrator for Human Resource Management
AHT	Office of Training and Higher Education
AIA	Office of International Aviation
AIR	Aircraft Certification Service
ALG	Acquisition and Material Service
ALR	Office of Labor and Employee Relations
AMC	Management Control Service (no longer in existence)
AMS	Office of Management Systems
ANA	Automation

ANC	Communications
AND	Associate Administrator for NAS Development
ANN	Navigation and Landing
ANR	Surveillance
ANS	NAS Transition Implementation Service
ANW	Weather and Flight Service Systems
AOA	Office of the Administrator
AOE	Office of Organizational Effectiveness (no longer in existence)
AOM	Office of Operations Resource Management (no longer in existence)
AOP	Office of Operations Planning and Policy (no longer in existence)
AOR	Operations Research Service
AOV	Office of Aviation Safety Oversight
APA	Office of Public Affairs
API	Associate Administrator for Policy and International Aviation
APM	NAS Program Management Service
APN	Office of Personnel
APO	Office of Aviation Policy and Plans
APP	Office of Airport Planning and Programming
APR	Office of Program and Resource Management
APS	Program Engineering Service (no longer in existence)
APT	Office of Personnel and Technical Training (no longer in existence)
ARD	Research and Development Service
ARM	Office of Rulemaking
ARO	Rotorcraft Program Office (no longer in existence)
ARP	Associate Administrator for Airports
ASA	Advanced System Acquisition Service (no longer in existence)
ASC	Office of System Capacity and Requirements
ASE	NAS Systems Engineering Service
ASF	Assistant Administrator for Aviation Safety
ASM	System Maintenance Service
ASQ	Office of Safety Quality Assurance
ASV	Office of Safety Analysis
ATH	Office of Air Traffic System Effectiveness
ATO	Air Traffic Operations Service
ATQ	Office of Independent Operational Test and Evaluation Oversight
ATR	Air Traffic Plans and Requirements Service
ATS	Office of Air Traffic Evaluations and Analysis
ATZ	Office of Air Traffic Program Management
AVN	Aviation Standards National Office
AVR	Associate Administrator for Regulations and Certification
AVS	Associate Administrator for Aviation Standards
(AWA)	(Washington Headquarters)
AWS	Office of Airworthiness (no longer in existence)

AXA	Executive Director for Policy, Plans and Resource Management
AXD	Executive Director for Systems Development
AXO	Executive Director for System Operations
AXQ	Executive Director for Acquisition
AXR	Executive Director for Regulatory Standards and Compliance

FAA Region Office Symbols

AAC	Aeronautical Center (Oklahoma City)
AAL	Alaskan Region
ACE	Central Region
ACT	Technical Center (Atlantic City)
ACD	Engineering, Research, and Development Service (FAATC)
ACL	Office of Research and Technology Applications (FAATC)
ACM	Resource Management Service (FAATC)
ACN	Engineering, Test, and Evaluation Service (FAATC)
AEA	Eastern Region
AEU	European Office (Brussels)
AGL	Great Lakes Region
ANE	New England Region
ANM	Northwest Mountain Region
ASO	Southern Region
ASW	Southwest Region
AVN	Aviation Standard National Field Office
AWP	Western Pacific Region
HAV	Havana, Cuba (Adjacent Facility Code/Computer)
KIN	Kingston, Jamaica (Adjacent Facility Code/Computer)
LIS	Lisbon, Portugal (Adjacent Facility Code/Computer)
MPX	Mexico City, Mexico (Adjacent Facility Code/Computer)
MID	Merida, Mexico (Adjacent Facility Code/Computer)
PPT	Tahiti, Society Islands (Adjacent Facility Code/Computer)
TIJ	Tijuana, Mexico (Adjacent Facility Code/Computer)
YXQ	Gander, Newfoundland (Adjacent Facility Code/Computer)
ZAN	Anchorage (Adjacent Facility Code/Computer)
ZCA	Albuquerque (Adjacent Facility Code/Computer)
ZCB	Boston (Adjacent Facility Code/Computer)
ZCC	Cleveland (Adjacent Facility Code/Computer)
ZCD	Denver (Adjacent Facility Code/Computer)
ZCF	Fort Worth (Adjacent Facility Code/Computer)
ZCG	Chicago (Adjacent Facility Code/Computer)
ZCH	Houston (Adjacent Facility Code/Computer)
ZCI	Indianapolis (Adjacent Facility Code/Computer)
ZCJ	Jacksonville (Adjacent Facility Code/Computer)
ZCK	Kansas City (Adjacent Facility Code/Computer)

ZCL	Los Angeles (Adjacent Facility Code/Computer)
ZCM	Memphis (Adjacent Facility Code/Computer)
ZCN	New York (Adjacent Facility Code/Computer)
ZCO	Oakland (Adjacent Facility Code/Computer)
ZCP	Minneapolis (Adjacent Facility Code/Computer)
ZCR	Miami (Adjacent Facility Code/Computer)
ZCS	Seattle (Adjacent Facility Code/Computer)
ZCT	Atlanta (Adjacent Facility Code/Computer)
ZCU	Salt Lake City (Adjacent Facility Code/Computer)
ZCW	Washington, D.C. (Adjacent Facility Code/Computer)
ZCX	Central Flow Control Computer (Adjacent Facility Code/Computer)
ZCX	FAATC Flow Control Facility
ZEG	Edmonton, Alberta (Adjacent Facility Code/Computer)
ZGT	Great Falls (Adjacent Facility Code/Computer)
ZHN	Honolulu (Adjacent Facility Code/Computer)
ZHU	Houston, TX -- ARTCC (center TTY ID)
ZID	Indianapolis, IN -- ARTCC (center TTY ID)
ZJX	Hilliard, FL (Jacksonville) -- ARTCC (center TTY ID)
ZKC	Olathe, KS (Kansas City) -- ARTCC (center TTY ID)
ZLA	Palmdale, CA (Los Angeles) -- ARTCC (center TTY ID)
ZLC	Salt Lake City, UT -- ARTCC (center TTY ID)
ZMA	Miami, FL -- ARTCC (center TTY ID)
ZME	Memphis, TN -- ARTCC (center TTY ID)
ZMP	Farmington, MN (Minneapolis) -- ARTCC (center TTY ID)
ZNY	Ronkonkoma, NY (New York City) -- ARTCC (center TTY ID)
ZOA	Fremont, CA (Oakland) -- ARTCC (center TTY ID)
ZOB	Oberlin, OH (Cleveland) -- ARTCC (center TTY ID)
ZQM	Moncton, New Brunswick (Adjacent Facility Code/Computer)
ZSE	E. Auburn, WA (Seattle) -- ARTCC (center TTY ID)
ZSU	San Juan, Puerto Rico (Adjacent Facility Code/Computer)
ZSU	San Juan, Puerto Rico -- ARTCC (center TTY ID)
ZTL	Hampton, GA (Atlanta) -- ARTCC (center TTY ID)
ZUL	Montreal, Quebec (Adjacent Facility Code/Computer)
ZVR	Vancouver, British Columbia (Adjacent Facility Code/Computer)
ZWG	Winnepeg, Manitoba (Adjacent Facility Code/Computer)
ZYZ	Toronto, Ontario (Adjacent Facility Code/Computer)

## APPENDIX C

### MILITARY DESIGNATION

#### Branch of Service Prefix

A	U.S. Air Force
C	U.S. Coast Guard
G	Air or Army National Guard
VM	U.S. Marine Corps
R	U.S. Army
VV	U.S. Navy
CAF	Canadian Armed Forces
CAM	Canadian Armed Forces (Transport Command)
CTG	Canadian Coast Guard

#### Military Mission Prefix

E	Medical Air Evacuation
L	LOGAIR (USAF Contract)
S	Special Air Mission
M	MAC (Military Airlift Command)
F	Flight Check

#### Aerospace Vehicle Prefix/Suffix

All Department of Defense aircraft have been assigned designations to conform with joint Army-Navy-Air Force regulations. Each aircraft or missile system designation has one letter to denote its primary function or capability; e.g., "B" for bomber, "F" for fighter, etc. To this, one or more prefixes are added to denote modified mission and status for aircraft, or mission and launch environment for missiles.

For example, in the designation VC-137, the basic mission or type is "C" cargo/transport. The "V" prefix denotes the modified mission of transporting staff personnel. If the designation were YVC-137, the additional "Y" prefix would denote prototype status. Suffixes are also used with aircraft designations to denote different models of the basic aircraft. Thus the C-137B would be a newer version of the C-137A.

For air traffic control purposes, only the principal elements of each military aircraft designation, Basic Mission/Type Symbol and Design Number, shall be used. The combination of these elements is limited to four characters. The Basic Mission Type Symbol is an alphabetical letter denoting the primary function or capability of an aircraft.

In a missile system, a prefix is used to denote the basic mission, type symbol and launch environment. For example, one model of the Minuteman ICBM is the LGM-30G. In this case, the

vehicle type is "M" for guided missile. The prefix "G" denotes the mission, surface attack, and the prefix "L" gives the launch environment, silo-launched. If the LGM designation was prefixed with an "X," it would denote the missile system's status was experimental.

#### Basic Mission Symbols (Aircraft)

A	Attack
B	Bomber
C	Cargo/Transport
E	Special Electronic Installation
F	Fighter
*H	Helicopter
K	Tanker
O	Observer
P	Patrol
R	Reconnaissance
S	Antisubmarine
T	Trainer
U	Utility
*V	VTOL and STOL
W	Weather Reconnaissance
X	Research
Z	Airship

\*The letters H and V are also used as special mission symbols (H-Rescue aircraft; V-VIP aircraft) in which case they precede the basic type symbol, e.g. HC-130, VC-137, HH-52A.

#### Modified Mission Symbols (Aircraft)

A	Attack
C	Cargo/Transport
D	Director
E	Special Electronic Installation
H	Search and rescue
K	Tanker
L	Cold Weather
M	Mine Countermeasures
O	Observation
P	Patrol
Q	Drone
R	Reconnaissance
S	Antisubmarine
T	Trainer
U	Utility
V	Staff
W	Weather

Launch Environment Symbols (Rockets and Guided Missiles)

A	Air
B	Multiple
C	Coffin
F	Individual
G	Runway
H	Silo-Stored
L	Silo-Launched
M	Mobile
P	Soft Pad
R	Ship
U	Underwater

Mission Symbols (Rockets and Guided Missiles)

D	Decoy
E	Special Electronic
G	Surface Attack
I	Interceptor-Aerial
Q	Drone
T	Training
U	Underwater Attack
W	Weather

Type Symbols (Rockets and Guided Missiles)

M	Guided Missile
N	Probe
R	Rocket

Status Prefix Symbols (Aerospace Vehicles)

G	Permanently Grounded
J	Special Test, Temporary
N	Special Test, Permanent
X	Experimental
Y	Prototype
Z	Planning



APPENDIX D

PHONETIC ALPHABET AND MORSE CODE  
(INTERNATIONAL ICAO)

A	Alfa	.-
B	Bravo	-...-
C	Charlie	-.-.-
D	Delta	-..-
E	Echo	.
F	Foxtrot	..-.-
G	Golf	--.
H	Hotel	....-
I	India	..-
J	Juliett	.----
K	Kilo	-.-
L	Lima	.-...-
M	Mike	--
N	November	-.-
O	Oscar	---
P	Papa	.-.-.-
Q	Quebec	--.-.-
R	Romeo	.-.-
S	Sierra	...-
T	Tango	-
U	Uniform	..-.
V	Victor	...-.
W	Whiskey	.-.-
X	X-ray	-.-.-
Y	Yankee	-.--
Z	Zulu	--..-
0	Zee-ro	-----
1	Wun	.-----
2	Too	..-----
3	Tree	...-----
4	Fow-er	....-.
5	Fife	.....-
6	Six	-.....
7	Sev-en	--....-
8	Ait	---...-
9	Nin-er	-----.

## APPENDIX-E

### AIRCRAFT COMPANY DESIGNATORS

An aircraft-company designator is a two or three letter code which when used in conjunction with the flight number, serves as the aircraft identification in the air traffic control system, in flight plans fix postings, control messages, computers, etc. When authorized, the designator/flight number combination is used instead of the aircraft registration number/identification (N number). Two letter designator are applicable to ICAO assignments for international record communication purposes and air traffic service related functions. Three letter designators are applicable to FAA assignments for national record communications and air traffic service purposes.

Use of the authorized designators in lieu of the aircraft registration number is recognized only for flight operations conducted within the U.S. Air Traffic Control System. They may also be used for U.S. Canadian transborder flights provided the operator holds a current license of operation and meets the established criteria for both countries. Authorized designators are valid only when the aircraft is being flown on regular published routes, for company business and in accordance with the provisions of the FAR's under which an operating certificate was obtained.

A radio-telephony (air/ground call) is normally the company name or an abbreviation thereof used in conjunction with the flight number. It is assigned at the same time as the company designator and becomes the aircraft identification in air/ground communications with air traffic control facilities in lieu of the standard "type/tail number" combination. It is also used for telephone coordination purposes.

# APPENDIX E (Cont)

## Active U.S. Commercial Air Carriers

<u>Company</u>	<u>Carrier Type</u>	<u>Grouping</u>	<u>Carrier Call Sign</u>	<u>2ltr</u>	<u>3ltr</u>
Aerial	F	MR		AG	AXI
Aeron Int'l Airlines	F	MR	Air Freighter		AWI
Air Wisconsin	S	N	Wisconsin	ZW	ASA
Alaska Airlines	S	N	Alaska	AS	AAH
Aloha Airlines	S	N	Aloha	AQ	AAL
American Airlines	S	M	American	AA	
American West	S	N		HP	
American Trans Air	S	N	Amtran	TZ	AMT
Arrow Airways	S	LR	Big A	JW	APW
Aspen Airways	S	LR	Aspen Air	AP	ASP
Atlantic Gulf Airlines	C	MR	Atlantic Gulf	ZY	AGF
Braniff Int'l Airways	S	N	Braniff	BN	BNF
Buffalo Airways	C	MR	Buffalo Air		BVA
Challenge Air Cargo	F	MR	Challenge Cargo	GJ	CWC
Challenge Int'l Airlines	S	MR	Challenge Air	OF	OFF
Connor	F	MR			
Continental Airlines.	S	M	Continental	CO	COA
Delta Air Lines	S	M	Delta	DL	DAL
Eastern Air Lines	S	M	Eastern	EA	EAL
Emerald Airlines	S	LR	Emerald	OD	EFF
Evergreen Int'l Airlines	F	LR	Evergreen	EV	EIA
Federal Express Corp.	F	M	Express	MB	FDX
Five Star	C	LR			
Florida Express	S	LR	Flexair	ZO	FLX
Florida West Airlines	F	MR	Flo West	HG	FWL
Flying Tiger Line	F	M	Tiger	FT	FTL
Galaxy	C	MR		GY	
Great American Airways	C	MR	Great American	FD	GRA

# APPENDIX E (Cont)

## Active U.S. Commercial Air Carriers

<u>Company</u>	<u>Carrier Type</u>	<u>Grouping</u>	<u>Carrier Call Sign</u>	<u>2ltr</u>	<u>3ltr</u>
Gulf Air Transport	C	MR		GA	HAL
Hawaiian Airlines	S	N	Hawaiian	HA	QXE
Horizon Airlines	S	LR	Horizon Air	QX	OOO
Independent Air	S	MR	Skylark		JED
Jet East Int'l	C	MR	Jet East	JL	KEY
Jet Fleet	C	MR			MMM
Key Airlines	C	LR	Key Air	MF	MID
Markair	S	LR	Interlakes	ML	
Midway Airlines	S	N	Midway	HO	
Mid Pacific	S	LR		YX	
Midwest Express	S	LR	Midex		
Million Air	C	MR	Dollar Sign	MG	MMG
MGM Grand	S	N		HU	NAC
Northern Air Cargo	F	LR	Northern Air	NW	NWA
Northwest Orient Airlines	S	M	Northwest	KG	ORN
Orion Air	F	MR	Orion	QT	PSA
Pacific Interstate	S	LR		PS	PAA
Pacific Southwest Airlines	S	N	PSA	PA	PAI
Pan American World Airways	S	M	Clipper	PI	PMT
Piedmont Airways	S	M	Piedmont	PM	
Pilgrim Airlines	S	LR	Pilgrim	XV	
Presidential Air	S	LR		RV	RVV
Reeve Aleutian Airways	S	LR	Reeve	RZ	RIA
Rich Int'l Airways	C	MR	Richair		RAX
Rosenbaum Aviation	F	MR	Rosenbalm		RWE
Royal West Airlines	S	LR	Royal West	FW	FLH
Sky Bus	S	MR	Mile High		
Sky World	C	LR			

# APPENDIX E (Cont)

## Active U.S. Commercial Air Carriers

<u>Company</u>	<u>Carrier Type</u>	<u>Grouping</u>	<u>Carrier Call Sign</u>	<u>2ltr</u>	<u>3ltr</u>
Southern Air Transport	F	LR	Southern Air	SJ	SJM
South Pacific Island Airways	S	LR	South Pacific	HX	SPI
Southwest Airlines	S	N	Southwest	WN	SWA
Sun Coast Aviation	C	MR	Suncoast	WS	SNT
Sun Country Airlines	C	MR	Sunline	SC	SCX
Sunworld Int'l Airways	S	LR	Sunworld	JK	SWI
Tower Air	S	LR	Tee Air	NC	TOW
Trans Air Link	F	MR			
Trans Int'l Airlines	F	MR	Trans Int'l	LP	TIA
Trans World Airlines	S	M	TWA	TW	TWA
United Airlines	S	M	United	UA	UAL
US Air	S	M	US Air	AL	USA
Zantop Int'l Airlines	F	LR	Zantop		ZAN

S- Scheduled; C-Chartered; F-All Cargo

M-Major; N-National; LR-Large Regional; MR-Medium Regional